

The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

The MINING JOURNAL is Registered at the General Post Office as a Newspaper, and for Transmission Abroad.]

No. 2503.—VOL. LIII.

LONDON, SATURDAY, AUGUST 11, 1883.

[WITH SUPPLEMENT.] { PRICE SIXPENCE BY POST, 21 4s. PER ANNUM

MR. JAMES H. CROFTS, STOCK AND SHARE BROKER
AND MINING SHARE DEALER,
NO. 1, FINCH LANE, CORNHILL, LONDON, E.C.
ESTABLISHED 1842.

BUSINESS transacted in all descriptions of MINING Stocks and Shares (British and Foreign), Consols, Bonds, Bonds (Foreign and Colonial), Railways, Insurance, Assurance, Telegraph, Tramway, Shipping, Canal, Gas, Water, and Dock Shares, and all Miscellaneous Shares.

BUSINESS negotiated in Stocks and Shares not having a general market value.

Every Friday a general and reliable List issued (a copy of which will be forwarded on application), containing closing prices of the week. MINES INSPECTED.

BANKERS: CITY BANK, LONDON—SOUTH CORNWALL BANK, ST. AUSTELL.
TELEPHONE NUMBER 1003.

SPECIAL DEALINGS in the following, or part:—

60 Asia Minor. 30 Gunnis (Cilt.), £1 1/2s.
50 Almada, 11s. 100 Hington Down, 4s.
20 Bedford Uni., £1 13 9 100 Hoover Hill, 4s. 3d.
30 Bratsberg, £2 6s. 3d. 25 Panulillo, £6 12s.
150 Bwich United, 3s. 25 Home Mines Trust, 1s.
20 Carnarvon, C., 2s. 9 100 Pestarena, 4s.
50 Callao Bis., 14s. 9d. 10 Rio Tinto, £2 2s.
50 Chile Gold, 13s. 9d. 50 Ruby, £1 10s.
30 Colombian Hyd., 5s. 9 50 Indian Phœnix, 2s. 6
75 Consolidated, 2s. 6d. 50 Indian Trelvel, 2s. 6d.
70 California, 18s. 9d. 50 Kapanga, 7s. 6d.
50 Colorado, 21 1/2%. 25 Killifret, £2 5s.
70 Chontales, 6s. 9d. 50 Richmon, £6 15s.
100 Cor. So. Austra. Cop., 12s. 10 Roman Grav., £7 9
100 Deva Can., 2s. 50 South Cardon, 5s.
50 Deva Moyer, 2s. 9d. 100 Tenerife, 1s.
20 Devon Consols, £3 12 6 50 Parys Copper, 2s. 9d.
75 Devon Friend., 4s. 3d. 30 Phoenix Uni., £2 1/2s.
50 Devon United, 4s. 100 Hington Down, 4s.
50 Don Pedro, 2s. 100 Hoover Hill, 4s. 3d.
50 Drakewalls, 5s. 100 Pestarena, 4s.
50 East Blue Hills, 6s. 100 Rio Tinto, £2 2s.
50 Eberhardt, 6s. 3d. 50 Ruby, £1 10s.
20 East Cardon, 11s. 6d. 50 Rhodes Reef, 3s.
75 East Chiverton, 50 Indian Trelvel, 2s. 6d.
50 E. Craven Moor, 100 Tenerife, 1s.
25 East Lovell, 6s. 25 Killifret, £2 5s.
100 East Wh. Rose, 11s. 6 50 South Cardon, 5s.
50 Frongoon, 17s. 6d. 100 Tenerife, 1s.
100 Frontino, £1 1/2s. 50 Parys Copper, 2s. 9d.
25 Goginan, 10s. 100 Hington Down, 4s.
50 Gold Coast, 17s. 50 Phoenix Uni., £2 1/2s.
50 Guineo Gold Cst., 6s. 3 100 Hoover Hill, 4s. 3d.
20 Great Laxey, £16 1/2%. 100 Pestarena, 4s.
40 Gawton, 5s. 100 Rio Tinto, £2 2s.
100 Port Phillip, 2s. 6d. 50 Richmon, £6 15s.
** SHARES SOLD FOR FORWARD DELIVERY (ONE, TWO, OR THREE MONTHS) ON DEPOSIT OF TWENTY PER CENT.
** SPECIAL BUSINESS AT CLOSE PRICES in all Market TIN, COPPER and LEAD SHARES.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

RAILWAYS — SPECIAL BUSINESS.—Fortnightly Accounts opened on receipt of the usual cover.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

FOREIGN BONDS — SPECIAL BUSINESS.—Fortnightly Accounts opened on receipt of the usual cover.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

AMERICAN AND CANADIAN STOCKS AND SHARES — SPECIAL BUSINESS.

Fortnightly Accounts opened on receipt of the usual cover.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

GOLD AND SILVER MINES.—SPECIAL BUSINESS in ALL marketable INDIAN GOLD SHARES, and in California, Callao "Bis," Gold Coast, Guineo Gold Coast, New Callao, West Callao, Tolima A, Tolima B, La Plata, Rio Tinto, Frontino and Bolivia, Potosi, Chile, Nouveau Monde, Ruby, Bicheno, Victoria.

* SHARES IN THE ABOVE SOLD FOR FORWARD DELIVERY ONE, TWO, OR THREE MONTHS ON DEPOSIT OF TWENTY PER CENT.

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SHARES SOLD FOR FORWARD DELIVERY, ONE, TWO, OR THREE MONTHS, ON DEPOSIT OF TWENTY PER CENT.

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SPECIAL BUSINESS in the above for cash or account.

FOR SPECIAL SALE, FOR FORWARD DELIVERY, ONE, TWO, OR THREE MONTHS, subject to deposit of TWENTY PER CENT.—100 East Wheal Rose, 12s. 6d.; 100 Mounts Bay, 7s. 6d.; 100 Old Shepherds, 11s.; 100 Tresavean, 10s.; 100 Home Mines Trust, 12s.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

ESTABLISHED 1842.

MR. W. H. BUMPUS, STOCK AND SHARE BROKER, AND MINING SHARE DEALER, 44, THREADNEEDLE STREET, LONDON, E.C.

ESTABLISHED 1867.

BUSINESS transacted in STOCK EXCHANGE SECURITIES and MISCELLANEOUS SHARES of every description.

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TRAMWAYS, TELEGRAPHS, and all the LEADING INVESTMENTS.

Accounts opened for the Fortnightly Settlement

A List of Investments free on application.

MR. BUMPUS has SPECIAL BUSINESS in the undermentioned:—

50 Almada, 9s. 25 Frongoon, 15s. 100 Port Phillip, 2s. 9d.

50 Bratsberg, £2 7s. 6d. 100 Glenrock, 2s. 9d. 20 Richmond, £6 7s. 6d.

30 Birdseye. 30 Grogan, 2s. 9d. 50 Ruby, 2s.

100 Carnarvon Copper, 2s. 9d. 100 Kholmoy B., 14s. 6d. 100 Roman Gravels, £6 15s.

50 Carnarvon, 2s. 9d. 100 Leadhills, £2 12s. 6d. 50 South Cardon Lim., 18s.

100 Chile Gold, 15s. 6d. 200 Langford, 2s. 6d. 100 Sentein, 5s. 6d.

150 Chontales, 6s. 9d. 50 New Trumpet Consols, 27s. 6d. 25 Trevaunance, £2 1/2s.

75 Callao Bis., 12s. 9d. 25 New Quebrada, 4 1/2 3s. 100 Tankerville, 4s.

100 California Gold, 18s. 9 40 New Katty, £2 7s. 3d. 100 United Mexican, £2 18s. 9d.

50 Colombian Hyd., 3s. 3d. 50 Nouveau Monde, 9s. 9d. 50 Orta, 17s. 5d.

25 Colorado, 38s. 6d. 50 Parys Copper, 2s. 9d. 50 Organos, £1 11s. 3d.

20 Copiapo, £5 1/2s. 50 Potosi, 18s. 9d. 50 Pestarena, 4s.

50 Drakewalls, 7s. 50 Ruby, 2s. 9d. 50 Wheal Jewell, 1s.

100 Devon Friendship, 10s. 50 Wheal Coates, 10s. 15 Wheal Grenville, 2s.

15 Devon Consols, £3 1/2s. 100 Potosi, 18s. 9d. 50 Wheal Coates, 10s.

100 East Blue Hills, 4s. 6d. 25 Panulillo, £6 12s. 50 West Godolphin, 20s.

50 East Cardon, 2s. 9d. 50 Pierrefitte, 17s. 9d. 50 West Polbreen, 2s. 6d.

30 Emma, 35s. 3d. 50 Prince of Wales, 10s. 9d. 10 West Katty, £13 5s.

20 Frontino, 38s. 6d. 75 Pen-y-Orsedd, 2s. 6d. 10 Wheal Agar, £15 1/2s.

Where prices are not inserted, offers may be made.

SPECIAL BUSINESS, at close prices, in the SHARES of all the principal HOME and FOREIGN MINES.

Mr. BUMPUS devotes special attention to these Securities, and is in a position to afford reliable information and advice to intending investors and others.

WILLIAM HENRY BUMPUS, SWORN BROKER,

OFFICES: 44 THREADNEEDLE STREET, LONDON, E.C.

ESTABLISHED 1867.

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18, AUSTIN FRIARS,
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BANKERS: THE ALLIANCE BANK (Limited).

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5, BIRCHIN LANE, LONDON, E.C.

Fortnightly Accounts opened in all Stock Exchange Securities on receipt o the usual cover.

SPECIAL BUSINESS in the following or any part:—

60 Almada, 9s. 3d. 40 Frongoon, 2s. 80 Organos, £1 10s.
40 Bratsberg, £2 5s. 60 Goginan, 11s. 40 Orta, 15s.
60 Canadian Cop., 18s. 50 Home Mines Trust, 80 Old Shepherds, 10s.
30 Callao Bis., 15s. 3d. 10s. 100 Port Phillip, 2s. 9d.
100 Consolidated, 2s. 6d. 40 Kapanga, 6s. 6d. 50 Prince of Wales, 10s.
50 Colombian Hyd., 6s. 30 Leadhills, £2 8s. 60 Victoria of Wales, 10s.
60 Chontales, 6s. 9d. 80 Mounts Bay, 6s. 6d. 40 Tresavean, 9s.
80 East Wh. Rose, 11s. 60 Nerbudda Coal, 2s. 75 Wheal Creber, £2 5s.

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PUMPING ENGINE
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FOR
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"Invaluable to those who cannot attend the markets."

ESTABLISHED 1852.

M. R. HENRY J. TALLENTIRE
begs to draw SPECIAL ATTENTION to the following:—
SOUTH PHENIX AND CARDON MINE (Limited).—I specially advise these shares for investment: they are likely to go to a considerable premium. The company is in 30,000 shares of £1 each; no further liability. The mine is situated in a district unvalued for its mineral wealth. It lies between and adjoins South Cardon, which on an outlay of £540 has returned £1,650,000 worth of ore; and Phénix United, which has paid over £200,000 in dividends, and is still making profits.

The mine is at present in full work, and is supplied with an extensive and valuable plant, machinery, &c., equal to carrying on operations on a considerably larger scale than at present. Thus there will be none of the usual wearisome delays to try the patience of shareholders. The directorate is first-class; no promotion money has been or will be paid; the company is likely to be a great and permanent success.

I shall be pleased to forward Prospectuses, also reports, by such eminent authorities as Capt. JOHN HOLMAN, JAS. KELLY, JOHN TRUSCOTT, RICHARD GLUYAS, &c.; and to SECURE SHARES FOR MY CLIENTS. Taking the company altogether, it presents an exceptionally favourable opportunity for making money, and I strongly recommend an immediate application for shares.

OFFICES—21, THREADNEEDLE STREET, LONDON, E.C.

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M. R. J. GRANT MACLEAN,
SHAREBROKER AND IRONBROKER, STIRLING, N.B.,
Refers to his Share Market Report on page 918 of to-day's Journal.

M. R. E. J. BARTLETT, STOCK AND SHARE DEALER,
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Selected List of Investments post free on application.

M. R. ALEXANDER DAVIDSON,
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563 and 564, MANSION HOUSE CHAMBERS, 11, QUEEN VICTORIA STREET, E.O.

JOHN RISLEY, STOCK AND SHARE BROKER,
AND

THE COAL TRADE.

Mr. J. R. Scott, the Registrar of the London Coal Market, has published the following statistics of imports and exports of coals into and from the port and district of London, by sea, railway, and canal, during July, 1883:

IMPORTS.

By Sea.	Ships.	Tons.	By Railway and Canal.	Tons. cwt.
Newcastle	132	126,301	Lond. & N.-Western	130,600 4
Sunderland	50	66,144	Great Northern	100,676 0
Seaham	25	15,757	Great Western	106,679 0
Hartlepool	52	22,655	Midland	106,620 0
Middlesborough	3	482	Great Eastern	65,282 8
Scotch	8	3,195	South-Western	5,767 0
Welsh	31	28,003	South-Eastern	1,689 19
Yorkshire	20	3,931	Grand Junction Canal	543 10
Cumberland	1	193		
Small coal & cind.	7	3,227		
Colonial	2	103		
Total	371	269,181		
Imports—1882	392	277,754		

Comparative Statement, 1882 and 1883.

By Sea.	Ships.	Tons.	By Railway and Canal.	Tons cwt.
Jan. 1 to July 31, 1883.	2811	2,201,530	Jan. 1 to July 31, 1883	3,917,722 19
Jan. 1 to July 31, 1882.	2925	2,123,127	Jan. 1 to July 31, 1882	3,563,054 7
Increase—1883	—	75,313	Increase—1883	354,688 12
Decrease—1883	—	114		

EXPORTS.

Railway-borne coal passing "in transitu" through district	..	Tons	99,784
Sea-borne coal exported to British Possessions, or to foreign parts, or to the coast	..	74,759	
Ditto sent beyond limits by railway	..	21,799	
Ditto by canal and inland navigation	..	1,040	97,598
Railway-borne coal exported to British Possessions, or to foreign parts, or the coast	..	44,714	
Ditto by rail beyond district	..	21	
Ditto, by canal and inland navigation	..	54	44,789
Sea-borne coal brought into port, & exported in same ships	..	378	
Total quantity of coal conveyed beyond limits of coal duty district during July, 1883	..	242,549	
Ditto, during July, 1882	..	206,169	

Comparative Statement, 1882 and 1883.

Total distribution of coal from Jan. 1 to July 31, 1883.	..	1,635,887
Total distribution of coal from Jan. 1 to July 31, 1882.	..	1,556,551
Increase in the present year	..	79,336

General Statement, 1882 and 1883.

Increase in coals imported by sea during the present year	..	78,313
Increase in coals imported by railway and canal	..	354,688—432,981
Less increase in coals exported	..	79,336
Total increase in trade within the London district during present year	..	353,645

UTILISATION OF PEAT MOSS.

An invention, the object of which is to render available as a raw material for the manufacture of paper pulp, millboard, furniture, doors, window sashes, and so on the mosses or lichens so plentiful in Nature, and especially white lichens, not, however, the peat moss, but as such peat moss as has in course of time lost vitality or growth, and serves as a foundation for the new moss, and accumulating through ages to a great depth—that is, sometimes 36 ft. deep and more, has been patented by TALLAHOPS PAPPERSBRUKS AKTIE-BOLAG, of Jönköping. In order from this material to make millboard the peat moss is first well rinsed to free it from the adhering sand and earth; it is then boiled for about an hour under a pressure of about four atmospheres in a suitable boiling apparatus with about 1 per cent. of soda of the peat when dry, the soda being dissolved in water, so as to completely cover the material. The liquid is then drawn off, and the material placed in a large vessel, wherein it is slaked or stirred with water, so that any remaining sand and earth may separate and deposit on the bottom, and the material easily be separated therefrom, also for removing the last trace of the soda lye. The material is then deprived of so much of its water that it may assume a suitable condition for undergoing a refining treatment, with a view of cutting up any remaining roots which may not have become detached during the boiling process.

The material is next run into two sorting cylinders, which are provided with finer or coarser cloth, according to the material or object to be manufactured. The material is removed from the aforesaid vessel by means of an endless chain or bucket pump and into an agitating vessel. After the material has been treated in this manner it is ready to be used for paper or millboard, which is done in the usual large machines for such purpose. It is obvious that the time for boiling and the quantity of soda must be modified according to the kind of peat moss used, and the article which it is desired to make therefrom. Millboard made from the material thus treated will withstand the fire quite as well as any heretofore made. This and other good qualities of such millboard render it very suitable for roofing material and for lining the interior of walls and roofs. If the material is to be bleached, in order to be used for writing and drawing paper and the like, this is effected by any known method—for instance, by chloride of lime and sulphuric acid, and other substances which are suitable for bleaching.

To render the material suitable for building purposes, such as doors and for furniture, mouldings, ornamental or otherwise, and for imitation sculpture and the like, the moss is first rinsed in a large vessel, the bottom of which consists of coarse cloth, and in which water is poured over it till the moss is quite cleaned. The moss is removed herefrom to another adjoining vessel, and about 3 per cent. of a glue is added, consisting of resin and soda, and water is mixed with it till it assumes a suitable consistency for being worked by rollers till the moss in a fibrous condition becomes applicable as pulp for paper. The material is then put on two sorting cylinders provided with coarser or finer cloth, all according to the product which it is desired to produce. The mass is now mixed with about 20 per cent. of pipe-clay and innocuous colouring materials, the latter according to the colour desired to produce, the whole being intimately mixed in a mixing vessel, after which the mass is conveyed to a usual millboard making machine, where it is treated as usual in millboard manufacturers, only with that difference, that the cylinders or rollers must be so adjusted in size that the length and breadth desired is produced. Then as many pieces of millboard thus formed are placed upon each other as required for the thickness desired, and before they are dried are placed in a strong hydraulic press, wherein they are so compressed that they, after drying, become at least as hard as wood. By laying the compressed piece of millboard in suitable cast-iron dies, the mass can be given the form and appearance desired.

It is not necessary that the mass should first be made into millboard before being pressed into any desired form, but it may also be directly moulded and pressed into the desired form. The surface may be polished, painted, varnished, or otherwise treated. Artificial wood made in this manner has the advantage that it does not swell or crack, and that it is almost incombustible, therefore, it is not only generally applicable as a suitable and strong building material, but even a cheap building material.

SOMOROSTRO IRON ORE COMPANY.—The report of the directors, to be presented to the annual meeting in Manchester on Aug. 16, says that after payment of all expenses there remains a net profit for the year of 18,904. £s. 7d. To this has to be added the balance from last year, 16661. 7s. 2d., making together 20,570. 10s. 9d. From this has to be deducted the amount of the interim dividend of 5 per cent. per annum, 3750/-, leaving for distribution the sum of 16,820. 10s. 9d. This sum the directors recommend shall be appropriated as follows: To payment of a dividend of 20 per cent. per annum free of income tax, which, with the interim dividend, will make the dividend for the year 25 per cent., 15,000/-, carrying forward to next account 1820. 10s. 9d.

HOLLOWAY'S OINTMENT AND PILLS.—NOTABLE FACTS.—Summer heats augment the annoyances of skin disease and encourage the development of febrile disorders, wherefore they should, as they may, be removed by these detergent and purifying preparations. In stomach complaints, liver affections, pains and spasms of the bowels, Holloway's unguent well rubbed over the affected part immediately gives the greatest ease, prevents congestion and inflammation, checks the threatening diarrhoea, and averts incipient cholera. The poorer inhabitants of large cities will find these remedies to be their best friend when any pestilence rages, or when from unknown causes eruptions, boils, abscesses, or ulcerations beoken the presence of taints or impurities within the system, and call for instant and effective curative medicines.

THE MINING JOURNAL

CARN CAMBORNE
TIN AND COPPER MINING
COMPANY (LIMITED).

PROVINCIAL STOCK AND SHARE MARKETS.

CORNISH MINE SHARE MARKET.—Mr. S. J. DAVEY, mine shareholder, Redruth (Aug. 9), writes:—Our market has not been any better this week, very little has been done, and prices on the whole have been rather easier. Smelters have reduced tin standards 2s. Subjoined are the closing quotations:—Blue Hills, 1/2 to 3/4; Carn Brea, 6 to 6 1/2; Cook's Kitchen, 27 to 28; Dolcoath, 6 to 6 1/2; East Pool, 42/2 to 43 1/2; East Uny, 1/2 to 3/4; Killifret, 2 1/2 to 3 1/2; New Cook's Kitchen, 5 to 5 1/2; New Kitty, 2 to 2 1/2; Phoenix, 2 to 2 1/2; Pen-an-drea, 1/2 to 1; South Condurrow, 8 to 8 1/2; South Crofty, 7 to 7 1/2; South Tomcarne, 4 1/2 to 5; South Frances, 9 to 9 1/2; Tincroft, 7 to 7 1/2; West Bassett, 5 to 5 1/2; West Frances, 2 to 3; West Kitty, 13 to 13 1/2; West Pever, 3 to 3 1/2; West Polbreen, 1 to 1 1/2; West Polidice, 1 to 1 1/2; West Tolgus, 10 to 12; West Seton, 15 to 16; Wheat Agar, 15 to 15 1/2; Wheat Basset, 5 to 5 1/2; Wheat Bassett, 4 1/2 to 5; Wheat Grenville, 6 to 6 1/2; Wheat Pever, 3 1/2 to 3 1/2; Wheat Uny, 3 to 3 1/2; Wheat Coates, 1/2 to 1 1/2; Trevaunance, 2 1/2 to 2 1/2; South Penstrith, 1 1/2 to 2.

—Messrs. ABBOTT and WICKETT, stock and share brokers, Redruth (Aug. 9), write:—Transactions have been very restricted this week, and owing to the weakness of the tin market most shares are easier. There is but little disposition to buy or sell at present. Closing quotations herewith:—Blue Hills, 1/2 to 3/4; Carn Brea, 6 to 6 1/2; Cook's Kitchen, 28 to 29; Dolcoath, 6 1/2 to 6 1/2; Pen-an-drea, 1/2 to 1 1/2; South Condurrow, 8 to 8 1/2; South Crofty, 7 1/2 to 8; South Frances, 9 to 9 1/2; Tincroft, 7 1/2 to 7 1/2; West Bassett, 5 to 5 1/2; West Frances, 2 to 3; West Kitty, 13 to 13 1/2; West Pever, 3 to 3 1/2; West Polbreen, 1 to 1 1/2; West Tolgus, 10 to 12; West Seton, 15 to 16; Wheat Agar, 15 to 15 1/2; Wheat Basset, 5 to 5 1/2; Wheat Bassett, 4 1/2 to 5; Wheat Grenville, 6 to 6 1/2; Wheat Pever, 3 1/2 to 3 1/2; Wheat Uny, 3 to 3 1/2.

—Mr. J. M. W. BAWDEN, Liskeard (Aug. 9), writes:—The mining market is dull and inactive, sellers predominant; the unexpected reduction of 2s. per ton on the standards by the smelters has had a deprecating influence on all tin stock and prices generally are weaker. Subjoined are the closing quotations:—Bodmin United, 1/2 to 1 1/2; Carn Brea, 6 1/2 to 7; Cook's Kitchen, 28 to 29; Dolcoath, 6 1/2 to 6 1/2; Devon Consols, 3 to 3 1/2; Devon United, 1/2 to 1 1/2; East Caradon, 2 1/2 to 3 1/2; East Looe, 1/2 to 1; East Pool, 42/2 to 43; Gwastow, 1/2 to 1 1/2; Gladstone (Golithers), 1 1/2 to 2 1/2; Herodsfoot, 1/2 to 3 c. p.; Hindon Down, 1/2 to 1 1/2; Killifret, 2 1/2 to 3 1/2; Marke Valley, 1/2 to 1; New West Caradon, 1/2 to 1 1/2; North Herodsfoot, 1/2 to 1 1/2; Old Gunnislake, 1/2 to 1 1/2; Phoenix United, 2 1/2 to 2 1/2; Prince of Wales, 1/2 to 1 1/2; South Caradon (Limited), 1/2 to 1 1/2; South Condurrow, 8 to 8 1/2; South Crofty, 7 1/2 to 8; South Devon United, 1/2 to 1 1/2; South Frances, 9 to 9 1/2; Tincroft, 7 1/2 to 7 1/2; West Bassett, 5 to 5 1/2; West Frances, 2 1/2 to 3; West Kitty, 13 to 13 1/2; West Pever, 3 to 3 1/2; West Polbreen, 1 to 1 1/2; West Seton, 12 to 14; Wheat Agar, 15 to 15 1/2; Wheat Basset, 5 to 5 1/2; Wheat Grenville, 6 to 6 1/2; Wheat Kitty (St. Agnes), 1 to 1 1/2; Wheat Pever, 3 1/2 to 3 1/2; Wheat Uny, 3 to 3 1/2.

—Mr. JOHN CARTER, mine shareholder, Camborne (Aug. 9), writes:—The share market has been very dull during the week and prices are again lower. Subjoined are the quotations:—Carn Brea, 6 1/2 to 6 1/2; Cook's Kitchen, 27 to 28; Dolcoath, 6 1/2 to 6 1/2; East Pool, 42/2 to 43; Killifret, 2 1/2 to 2 1/2; Mellinare, 3 to 3 1/2; New Cook's Kitchen, 4 1/2 to 5; New Kitty, 2 to 2 1/2; Pen-an-drea, 1/2 to 1 1/2; Penhalls, 1/2 to 1 1/2; South Condurrow, 8 to 8 1/2; South Crofty, 7 1/2 to 8; South Frances, 9 to 9 1/2; Tincroft, 7 1/2 to 7 1/2; West Bassett, 5 to 5 1/2; West Frances, 2 1/2 to 3; West Kitty, 13 to 13 1/2; West Pever, 3 to 3 1/2; West Polbreen, 1 to 1 1/2; West Seton, 12 to 14; Wheat Agar, 15 to 15 1/2; Wheat Basset, 5 to 5 1/2; Wheat Grenville, 6 to 6 1/2; Wheat Kitty, 1 to 1 1/2; Wheat Pever, 3 1/2 to 3 1/2; Wheat Uny, 3 to 3 1/2.

MANCHESTER.—Messrs. JOSEPH R. and W. P. BAINES, sharebrokers, Queen's Chambers, Market-street (Aug. 9) write:—The continuance of a state of affairs characterised by such a want of life renders it almost superfluous to attempt to report on a market so devoid of features of interest. Certainly some movements are always occurring, but for some time they have not been the outcome of any general influence, but to the effect of rumours and operations, about which nothing can be reported except the bare changes. In the dull condition of the market, the Bank Holiday, besides the actual loss of the day's business, has restricted business by taking away operators both before, and keeping them away after the day, and as the settlement commences on Monday, the new business entered upon during the past week is small indeed. What has been done is pretty well divided amongst the several classes of investments. Taking into consideration that so little is going on, prices generally keep very steady. Foreign funds on the whole are the turn better on the week. Egyptian stocks have shown some better prices, but have since receded, only the Daria now showing any, and that but slight improvement. Spanish Three per Cents. have had a sharp fall, the greater part of which has occurred to-day. Mexican Rails, after going up quickly, have settled back somewhat, but are now stronger again, notwithstanding a decrease in traffic of 12,000.

BANKS, with a fair proportion of the business passing, are somewhat irregular, balance of movements being slightly adverse.—Higher: National Boiler, 1/2 to 1/2; Royal (Liverpool), 1/2; and English and Scottish Boiler, 1/2.—Lower: Commercial Union, 1/2; British Re-Insurance, 1/2; and Manchester Fire, 1/2. Lancashire and Yorkshire Accidents, buyers' figure advanced 1/2.

COAL, IRON, &c., AND MINING.—A few transactions reported in Palmer's, B. Cammells, and

8%, but are now firmer at 61. 9s. to 61. 10s. A favourable impression has been caused by the announcement of quarterly dividends by the Panuncillo Company. Arizonas touched 50s. 6d., and are now about 52s. Senteus, 5s. to 7s.; and York Peninsula (pref.), 15s. to 17s.

In shares of home mines business is still quiet. If the tin market improves as expected some of the cheap tin shares should be worth buying. Rickton offered; Carpellas are at 1s. 6d.; Cambrian, 5s.; Carn Camborne, 10s. to 15s.; Caron, 2s.; Collacombe, 4s. 3d.; Devon Friendship, 3s. 6d. to 4s. 6d.; East Chiverton, 2s. 6d. to 5s.; East Honey, 9s.; East Blue Hills, 5s. 6d.; Frongochs, 10s. to 12s. 6d.; Langfords, 4s. to 6s.; Leadhills, 4s. 6d. to 5s. 6d.; Mounts Bay, 5s. to 7s.; Monkstone, Manganeze, 30s. to 40s.; New Caradon, 4s. to 5s.; Old Shepherd, 6s. 3d. to 8s. 9d.; Rhosescmor, 50s. to 60s.; Rovalton, 1s. 6d.; Tamar, 6s. 3d. to 8s. 9d.; Trevasunance, 4s. 6d. to 47s. 6d.; Trebortha Lernarne, 6s. 6d.; Wheal Lusky, 2s. 6d.; and Yatwith, 1s. to 3s.

In shares of gold and silver mines business continues quiet. Californians are unaltered, although another dividend has been announced. Cankim Bamoo, 2s. 6d. to 5s.; Deva Central, 1s. to 3s.; Denver Gold, 2s. 6d. to 5s.; Flagstaff, 2s. 6d. to 3s.; Frontino, 32s. 6d. to 35s.; Gold of Canada Debentures, 17s. 6d.; Gold Coast, 11s. 3d. to 13s. 9d.; Hawkins Hill, 4s. 6d.; Indian Kingstone, 1s. 6d.; Kohinoor, B., 14s.; Isabelle, 5s. to 10s.; Nava de Jaquira, 2s. 6d.; New Callao, 5s. to 10s.; New Gold Run, 4s. 3d.; Potosi, 17s. to 18s.; Sierra Buttes, 22s. 6d. to 27s. 6d.; Tacquah, 4s. 6d.; West African, 13s. 9d. to 16s. 3d.; and West Callao, 12s. 6d. to 15s.

In shares of oil and miscellaneous companies prices are steady. Mid-Lothian Oils advanced from 10s. 18s. 9d. to 11s. 11s. 3d. Home Mines Trust, 10s. to 12s. 6d.; and Lawes' Chemicals, 6s to 6s.

EDINBURGH.—Messrs. THOS. MILLER and SONS, stock and share brokers, Princes-street (Aug. 8), write:—Business has since last reported been extremely dull in all departments. The railway dividends announced have had no effect on the general market, and there is no change of importance to note in home or Canadian railways. Americans have been very weak, and have fallen heavily. Erie shares have gone from 35^{11/16} to 34^{1/2}. Denver from 39 to 36^{1/2}. Ontario from 25 to 23^{1/2}. Mississippi from 33^{1/2} to 32^{1/2}. Oregon Preference have declined from 39^{1/2} to 38^{1/2}. Reading shares have maintained previous prices. Union Bank shares have improved from 24 to 24^{1/2}. Edinburgh Life Insurance from 33^{11/16} to 39. Caledonian from 17^{1/2} to 17^{3/4}. Canada North West Land shares have been flat, and have receded from 61s. 5d. to 55s. American Lumber have gone from 7^{1/2} to 7^{1/2}. Prairie Cattle (first issue) from 81^{11/16} to 9^{1/2}. Swan Land and Cattle from 7^{1/2} to 6^{1/2}. Arizona Copper have risen 2s. to 5s., at which they are firm, and a fair amount of business has been done in them. Arniston Coal are wanted at 10^{1/2}—a rise of 2s. 6d. Marbella Iron Ore have had another heavy fall, from 70s. to 60s. The changes in oil shares are slight, but are generally upward.

IRISH MINING AND MISCELLANEOUS COMPANIES SHARE MARKET.

CORK.—Messrs. J. H. CARROLL and SONS, stock and share brokers, South Mall (Aug. 8), write:—Markets were quiet to-day, and Great Southern fell to 121. Midlands unchanged, but Bandons were firm at 86. Macrooms were asked for at 6, and the preference at 8. National Banks were done at 24^{1/2} to 24^{3/4}, and Munsters at 6^{1/2}. No change in Provincial or Hibernians. Alliance Gas were 19^{1/2}, and Dublin 9^{1/2}. Cork Steam Packets remain 12 to 12^{1/2}, and Dally Tram were offered at 2^{1/2}. Lyons shares ex div. Breweries were offered at 5, and Gresham Hotels asked for at 3^{1/2}. Gouldings remain 9, and Levys 5^{1/2} to 6. Harbour Board debentures asked for at 100^{1/2}.

WATSON BROTHERS' MINING CIRCULAR.

**WATSON BROTHERS,
MINEOWNERS STOCK AND SHARE DEALERS &
1 ST MICHAEL'S ALLEY, CORNHILL, LONDON**

We agree with our correspondent; it is a great pity that such a mine as Wheal Agar, if all reports be true, should have such an incubus upon it as a debt of 7297. 1s. 6d. without a call being made to wipe it off. Among the shareholders, we believe, are some of the wealthiest bankers and merchants in Cornwall; but all who know anything of Cornish mining know also what is meant by merchants allowing 5838^{1/2} to remain so long unpaid. The shareholders are not only paying stiff interest but stiff prices; whereas short and regular payments would get goods at less prices, and discounts besides. We have found this the case at Wheal Crebor, where all the merchants are paid monthly. And, looking at the magnitude of Wheal Agar, and the large debt also due to the bankers, we do not doubt that 1000^{1/2} a-year might be saved to the shareholders by prompt and regular payments, and being independent of the bankers. We can only suppose, therefore, from the fact of the managing agent recommending that there should be no call, as the mine was capable of paying off the debt, that shareholders are getting tired of the calls; and, further, that he hopes to do better in the future than he has done in the past. And it must have been a great satisfaction, considering what has happened in the past, to hear him also say that the pitwork in the bottom of the mine was now able to cope with any influx of water during the coming winter.

A shareholder in Langford tells us we have not made enough of the acquisition of the East Cornwall silver sett; that it is good enough to form an amalgamated company upon if the shareholders do not come forward and take up the preference shares as silver might soon be found.

West Crebor adjoins Crebor, is on the same lode, and is nearing the same depth from which Crebor raised and sold ore to the value of 150,000^{1/2}. There is only one lode in the district having a north underlie, and that is the Crebor lode, which has actually been driven from Crebor into West Crebor sett. There can, therefore, be no doubt about the lode; and it has all the same composition and the indications and promise that it has in Crebor. Being in higher ground, however, the 62 in West Crebor is only equal to the adit in Crebor. Down to the 62 there were several short shoots of ore, worth 10^{1/2} and 12^{1/2} per fathom. The shaft is now down 72^{1/2} fms., lode 3^{1/2} ft. wide, in easy ground, and at the 75 a level will be driven, it is hoped, in a course of ore. At the 62 west the lode has not been been for some few fathoms, but will be cut through shortly. In this end the lode was once worth 15^{1/2} per fathom for 3 or 4 fms. in length.

With all these prospects our correspondent may well further ask why are shares at 5s. each? That we cannot answer, and do not much regard, as we go for the mine and not for the market. We hold nearly 1000 shares, that have cost us on an average 15s. 8d. each. The agent holds 1000, which, with the calls, must have cost nearly as much, and we are content to wait for the mine to recoup us, as Wheal Crebor did, and we advise our correspondent to do the same and not regard the market, which is no test of the value of a speculation. When Wheal Crebors were down to 2s. 6d. per share no one would touch them, and the mine would have been stopped and the company wound up if we had not purchased 3000 shares at 1s. 6d. each. Within six months what we had expected came to pass, and shares rose to 13^{1/2} each. We have as much confidence now in West Crebor turning out a successful mine as we had in Crebor then, though we fear many people have been frightened out of their shares. Capt. John Andrews, the agent, would answer any question a shareholder might ask him.

Great West Chiverton has been specially inspected and reported upon this week for a large shareholder. The report was sent to us too late for insertion this week, but will be sent to the *Mining Journal* for next week's issue. The report concludes thus:—“A better spot for a new mine could scarcely be selected. The lode is one of the rich lodes of the Chiverton Mines, and appears to be in the same lead-bearing formation, and I never saw a young mine where success appears more certain.”

The mine is on the run of the lodes of the famous West Chiverton, and we have always considered the lode worked on to be one of the lodes of that mine.

The New Caradon has also been inspected, and the special report will be found in another column. Looking at all the facts connected with the mine, the inspector says:—“There is only one just conclusion that can be arrived at—that this mine will, on being vigorously worked be another of the grand successes for which the district is celebrated.”

There are two very old sayings in Cornwall, one is—“Where 'tis, there 'tis;” the other—“Mundic rides a good horse,” and as it is proverbial that when large deposits of mundic are found, there is ore beneath, or near at hand, let us hope we are near something good at Polrose, for the agent writes this week:—“The lode (in the shaft) is improving as we sink. I have never seen it look more promising than it does at present. It is still producing large quantities of mundic, and some parts of it are yielding good work for tin.”

The country about the shaft is highly mineralised, and I fully expect that we shall shortly have a much improved lode, for I cannot but think that the quantity of mundic we are meeting with must proceed from a deposit of tin not far distant.”

Greetings of Public Companies.

ENGLISH AND AUSTRALIAN COPPER COMPANY.

The half-yearly general meeting of shareholders was held at the City Terminus Hotel, Cannon-street, on Thursday,

Mr. R. A. ROUTH (the Chairman of the company) presiding.

Mr. C. B. ROGERS (the secretary) read the notice convening the meeting.

The CHAIRMAN: Gentlemen, you are aware this is the half-yearly meeting, and on this occasion we have really no business to transact, and I have merely to report to you what we have been doing during the past six months. I only wish that the result had been

more satisfactory than it appears to be; although I think in my own mind it is satisfactory in this way, that we have certainly not made a loss; but the profit is a minimum one. When we had the pleasure of meeting in February last copper was considerably higher than it is now, and it does not require any great amount of calculation to show you that the fall in the price of copper must naturally affect our stocks. This is more especially the case in the first half of the year, because it not only affects us with regard to the copper we have sold, but also with regard to the copper we have in hand. We always carefully review our valuations, and on this occasion we have had to put down our copper stocks so as to meet the fall which has taken place in the price of copper. Therefore, looking at the year as a whole, you will find that this half-year suffered more severely than the next half-year will, because we have already written off the depreciation in the value of the copper. If by any possibility there is a rise in copper between now and February, which I think is very probable, we shall reap the full advantage of having put our stock back. With regard to the business done during the last half-year the quantity of ore received from the different mines has been 3439 tons 13 cwt. 2 qrs., as against 5068 tons 5 cwt. 2 qrs. in the corresponding six months. The quantity of ore smelted at Port Adelaide and Newcastle Works was 3976 tons 11 cwt. 2 qrs., as against 3541 tons 20 cwt. The quantity of copper made was 713 tons 11 cwt. 2 qrs. 4 lbs., as against 585 tons 11 cwt. 1 qr. 18 lbs., and the quantity of copper shipped and sold in Australia was 713 tons 11 cwt. 18 lbs., as against 589 tons 6 cwt. 2 qrs. 14 lbs. The net earnings of the wharf at Port Adelaide were 1340^{1/2}, as against 963^{1/2} produced in the corresponding half-year. At the time of the general meeting, held on Feb. 22, the price of Burra Burra copper was 71^{1/2} lbs. per ton, and since then it has fallen down to 65^{1/2} per ton. The first fall of 32^{1/2} lbs. per ton affected not only our sales of copper, but it also, as I explained just now, affected our stocks of copper in Australia, which were taken at 22. 10s. per ton less than on June 30, 1882. You will also remember that we were very sanguine of having a larger supply of copper ore; but, on the contrary, this fall in the price of copper has prevented the mines producing the copper they would have done, and, therefore, the supplies fell off. I should also mention that our manager, who has been acting with the very greatest prudence, has lost several lots of copper, in consequence of the price which he offered having been under the other tenders. He was very careful, seeing that the margin of profit was so small, to make his tenders as close as possible, and in doing so we lost several parcels of ore. There has been great competition for these ores in Australia—excessive competition I may say, because the Wallaroo Company compete with us for every parcel of ore put up, except what we get from the Balade Mine. The same would apply with regard to the northern district, which is our hopeful point. The northern district is, under the auspices of the Corporation of South Australia, opening out. Up to the present they have not done a great deal; but they have two very fine mines which they have been opening out at very great expense. I think they have expended something over 20,000^{1/2}. In opening out these mines, and as far as they have gone, especially with respect to the Blinman Mine, they have done very well. They have five or six places where the ore contains over 20 per cent. of copper, and there is no doubt that if they are sufficiently strong to open out the mine fully we shall have a good supply of ore there from. Up to the present time we have had only a very small quantity; 230 tons from the Blinman Mine and 200 tons from the Mount Rose Mine, both belonging to the Corporation of South Australia. The mines are being opened out and galleries made; they are putting up very extensive machinery for sinking, and also for raising, and we may hope that in the course of a few months, if they carry on their works to the extent we believe will, these mines will prove a good source of supply. If so, we shall be in a much better position with regard to competing than we are at the present time. It is necessary to keep the furnaces working, and to keep them working we must compete for ore, and sometimes we have to give outside prices for the ore, so as to keep the furnaces going. We take stock only once a year, and I hope we may look forward more hopefully to the end of the year, when, even if the price of copper remains as it is now, we shall in all probability be in a dividend position. I do not know that there is anything else to refer to, as the statement sent you contains nearly all that could be said as to the working of the six months; but I shall be happy to answer any questions.

Mr. GAHAGAN: There seems to be a very heavy item here of 1049^{1/2} for interest in Australia which I should like to hear some explanation about. I find, too, that the home charges come to about 1860^{1/2} a year. Could not that be reduced in any way? I cannot imagine that you require a large staff of clerks to carry on the business in this country. It seems a large item, considering that the balance carried down only amounts to 722^{1/2}.

The CHAIRMAN: I should be glad to see the item of interest paid in Australia larger, because it generally increases as we have a larger amount of business to do. We often have over 100,000^{1/2} worth of copper *in transitu*, and it stands to reason that we have a considerable interest to pay on the over-draft. If we had not this over-draft we should require further capital to supply our wants. The rate of interest has been higher this half-year. It is now a little over 10 per cent. per annum; but our drafts are put upon a first-class footing, as mercantile drafts, and we always have the advantage of getting them discounted as first-class paper, and I do not think we have any reason to complain of that. The London charges are just the same as usual. When the business is good they look very light; when the business is not good they do not look quite so well. The item includes the directors' fees.

Mr. GAHAGAN: What are the directors' fees? Are they a fluctuating or a fixed sum?—The CHAIRMAN: They are 600^{1/2} per annum, and 5 per cent. on the dividend when we pay one.

Mr. FREWER, in reply to Mr. BOND, said the greatest caution was exercised in purchasing the ores. He added that the depreciation in the stock held in Australia when the stock was taken represented a dividend of 1s. a share.

The CHAIRMAN, in reply to Mr. HEATH, said the board had the fullest confidence in the present manager, who had served under the late manager for 14 years. He was strongly recommended by Mr. Cook, the late manager, and he believed that in their manager they had an honest, truthful, and efficient officer. On the motion of Mr. BOND, seconded by Mr. GAHAGAN, a vote of thanks was passed to the Chairman and directors, and the meeting then closed.

CHILE GOLD MINING COMPANY.

An extraordinary general meeting of shareholders was held at St. Michael's Hall, George-yard, Lombard-street, on Thursday,

Mr. J. HARVEY in the chair.

Mr. J. SYKES WRIGHT (the secretary) read the notice calling the meeting, and the circular was taken as read.

The CHAIRMAN said: The present meeting is called according to the Joint-Stock Companies Act to confirm the resolution passed at the previous special meeting, and this must be done within a calendar month. We were in hopes that Mr. Nicholson would have been here to address you, but circumstances have occurred to prevent him. Among other things, it is necessary that all our titles to the Chile property should be sent to Caracas to be revaluated, and Mr. Nicholson has sent his second in command to see to this, and the directors do not think it right that both should be absent from the mines at the same time. I am glad to inform you that what I stated last time as to the increased returns has been verified by the last telegram, which gives us 3400^{1/2}. As the remittance—do not mistake that for the output—from June 20 to July 20. So far as we can tell, the yield is about 17^{1/2} per ton, which is a considerable improvement upon what the rock yielded in the early part of the year. If we go on as we are doing (it is somewhat rash to prophesy) we shall soon be in a dividend-paying state, and it will not be long before we see our way to give the shareholders some reward for their patience. We have had a great many enquiries as to why we have not paid a dividend. I think the answer to that is given in the body of the circular which we sent to the shareholders on Aug. 1, in the extract from Mr. Nicholson's letter, dated June 20. “I am happy to report that considerable progress has been made during my absence, and that the boilers are *in situ*, and the new stampa in a forward state of construction. The mine has also been opened up. Every requirement as you say has been attended to with regard to machinery, and the mine now will be fairly equipped with machinery. It will take some months to put all in place, but every order and work has been done to promote economy in work and efficiency, and the result is the produce of 3000 oza. last month out of what I call ‘poor rock.’” That compared very favourably with last year. We have not yet had accurate information that the boilers are at work. The additional 20 stampa should soon be, if they are not already, and the yield of gold should consequently be very considerably increased. Should we happen to get on to rock giving 2 to 2^{1/2} oza. to the ton the returns will be considerably increased. It is not wise to prophesy or predict, but up to the present time our predictions have come tolerably correct. We have had as much as we expected for the first six months, and if we do as well in proportion during the last six months there will be something to reward the shareholders for having waited so long. There is no doubt that the value of our property is very great, especially if we compare it with the relative values of some of the adjoining properties. I see that one mine has just been registered with a capital of 800,000^{1/2}. That mine has not for many years turned out an ounce of gold. This shows the confidence of the promoters in this mine—at all events, of those interested in it. If we compare that with our own I think you will confess that we have good value for our money—dearly as we bought it in the first instance. I do not know that there is any occasion for me to detain you longer unless any shareholder after I put the resolution would like to address any questions to me. These I shall be ready to answer to the best of my ability. Some questions have been asked indirectly, but they are of such a technical character that I can only reply to them under the advice of our manager. Therefore, we had better await his arrival. I beg to move that the following resolution which was passed at an extraordinary general meeting on July 19, 1883, and now read to the meeting be confirmed as a special resolution:—“Resolved, that the Articles of Association be altered by adding

after Article 41, the several articles stated in the circular to the shareholders now read to the meeting.”

Mr. MCANDREW, in seconding the proposition, briefly adverted to the satisfaction of the company as compared with some time ago. The improved output was more important, from the fact that it was raised from less quartz than smaller amount would have been some months ago.

The CHAIRMAN said that the change made by the alterations in the Articles was not to assist speculators, but at the request of gentlemen abroad who wished to have a mode of transfer that involved less delay.

A desultory conversation then ensued as to the exact profits the company was making at the present time.

The CHAIRMAN said that without the accounts he could not pledge himself to precise or even approximate figures, and it was unfair to ask him to do so.

Mr. HAWKINS suggested the desirability of selling sections of the property if a neighbouring company could be floated with a capital of 600,000^{1/2}. (Laughter.)

The CHAIRMAN said it was premature to think of this.

them. I mention that just to explain to the adventurers what they might not have otherwise understood. Formerly our shares were put down in the lists as having 6s. 5s. 6d. paid up upon them; but we find upon investigation that the correct sum is 7s. 5s. 7d. Also as regards the dividends, the correct amount paid upon each share was 9s. 17s. 6d. The profit shown upon the 16 weeks' working amounts to 249s. odd, and we recommend that you should declare an 8s. dividend, which will absorb 244s. of that sum, leaving an amount of 47s. to add to the floating balance. I therefore, now propose that a dividend of 8s. per share be declared, payable forthwith.—Mr. CHARLES CLARK seconded the proposal, which was carried.

Mr. SHEARWOOD: I notice that there is a very considerable reduction in the cost of raising. How is that accounted for?—The CHAIRMAN: Of course the profit depends on the difference between the cost of raising and the price at which you sell your produce; but as the stone improves in yield so, other things being equal, will the cost of returning be decreased. It shows good management; but it also shows that the value of the tinstone has improved.

Capt. RICH: Bad ore costs as much to treat as good ore, and, of course, as the quantity increases the general charges become proportionately less.

Mr. SHEARWOOD: I have very much pleasure in proposing that the committee of management be re-elected, and I am sure we could not do better. I am very pleased to see them there, and I shall be very glad to see them there for some time to come.—Capt. RICH seconded the proposal, which was carried.

The CHAIRMAN, in thanking the adventurers for the re-election of the committee, said he was very glad that the proposition had been seconded by Capt. RICH, who, as they knew, held very strong opinions as to the value of committees. (Laughter.)

Mr. LEACH: I rise to propose a vote of thanks to our worthy Chairman. He takes the most active part on the committee, and I am sure as long as he holds that position we can all rest perfectly satisfied that everything will be conducted in the way it should be. You are all aware that Mr. Marshall is by far the largest shareholder in the mine, and I always feel pleasure in taking up the share ledger to see a little addition to our worthy friend's holding. He now holds 1214 shares, which is almost a fifth part of the mine. It only shows that a deep interest he feels in the mine. I am sure you will give him a hearty vote of thanks for the active part he takes in the affairs of the mine, and I hope he will live for many years to see South Coudurour grow in prosperity. (Applause.)

Capt. RICH: I will second that with pleasure. I am very pleased to meet the committee, from whom I have always received every assistance, and I am exceedingly pleased to see that Mr. Marshall holds so large a number of shares. He shows by that what a sagacious man he is. (Laughter.) The mine has returned in dividends its original capital and about 30 per cent. beyond, and with the prospects before us I think Mr. Marshall's large holding shows him to be a wise man. I am always hearing it said that mining is so speculative. Well, so is every other step we take in life. Mining conducted properly is not more speculative than other branches of business. While the accounts are kept straight and there is nothing kept in the background, I say that mining is as good a business as anybody can go into. I believe that in this mine everything is done in a thoroughly straightforward manner, and I have no doubt that we shall do very well. (Applause.)

The proposition having been carried,

The CHAIRMAN, in returning thanks, remarked that too much must not be made of the fact of his large holding, for it might happen at any time that he might find it necessary to sell that holding, without in any way affecting his confidence in the mine. (Hear, hear.) He had been at issue with the public as to the value of the shares, and he had, therefore, backed up his opinion by taking up shares as he could.—The meeting then closed.

GREAT HOLWAY LEAD MINING COMPANY

An extraordinary general meeting of shareholders was held at the Offices, Great St. Helens, on Wednesday, for the purpose of confirming the special resolution passed at a meeting held on July 25.

Mr. W. MACKESON, Q.C., in the chair.

Mr. E. J. BARTLETT (the secretary) read the notice calling the meeting.

The CHAIRMAN: Gentlemen, we so fully entered into the matter on the last occasion that it is not necessary for me to make any further observations. I will simply move the confirmation of the resolution.—Mr. BLACKETT seconded the motion, which was carried.

Mr. BLAND: I believe on the last occasion you said that you only had letters from two or three shareholders as regards the advisability, or non-advisability of carrying this resolution. Since then have you had communications from any other shareholders?—Mr. BARTLETT: None.

Mr. BLAND: Then I think we may take it that everyone is wise, and that we all conclude that this is a good thing to do. Are the board thoroughly unanimous upon this point?—The CHAIRMAN: Thoroughly.

Mr. BLAND said he was very pleased to hear it, and had perfect confidence in the wisdom of the decision the directors had come to. When a concern was too large it was always well to divide it. He was a tradesman, and if he had too large a shop and found that it took him more than he could do to develop it properly he confined himself to one part of it, and made the best bargain he could for the rest. Life was short—we had painful instances of that every day—and the lease was if possible shorter, and, looking at the matter from a business point of view, he thought the board had done the right thing. He did not know how long it would take to exhaust this property, considering how at present they were pegging away, but if the board could get this money, and exhaust the property sooner, so much the better. If, for example, they could exhaust it in ten years, those of the shareholders who lived that time would be all the better for it. (Hear, hear, and laughter.)

The CHAIRMAN said Mr. Bartlett had put the matter well, and thoroughly expressed the views of the board.

Mr. BLAND said that in mining he used to expect everything to turn out well all at once; but now he looked at it in a business-like way, and realised that he could not expect a return without allowing time for development. He believed that twelve months hence every one of the shareholders would be heartily glad that this division of the sett had taken place.

On the motion of Mr. ALFRED THOMAS the proceedings closed with a vote of thanks to the Chairman.

HERDSFOOT SILVER-LEAD MINING COMPANY.

The four-monthly meeting of shareholders was held at the office of the company, Queen Victoria-street, on Tuesday.

Mr. GRANVILLE SHARP (the purser) in the chair.

The notice convening the meeting was read, and the minutes of the previous meeting were read and confirmed.

The CHAIRMAN expressed regret that his expectations of the call made in April, being the last, had proved a great disappointment; the mine, according to the reports of the agents, had never looked so well for years as lately, and everything at the mine was going on in a satisfactory way up to the time of the accident, some seven weeks ago. The executive, with a view of saving unnecessary alarm, considered it desirable to wait until those breakages were made good before in any way referring to them. They are now put right, and all is going on well at the mine. No shares had changed hands since the breakage.

A SHAREHOLDER thought it was quite right that no unnecessary alarm had been given.

The CHAIRMAN: I think, under the circumstances, it will not be objectionable to the meeting if the report of the agents be submitted at once.

The report was read, and the various points of operation were shown and explained by the manager, with the aid of the plan.

The statement of accounts were submitted, showing a loss on the 16 weeks of 168s. 17s. 6d., to which the shareholders' commission and interest for the half year ending June 30 was added—95s. 6s. 11d.—increasing the loss to 1784s. 4s. 5d.

A SHAREHOLDER remarked that the costs had increased during the last four months.—Capt. TEMBY said such was the case; more work had been accomplished, extra coal had been bought and paid for.

The CHAIRMAN: We have at the wharf a cargo of coal, paid for; was, in fact, paid for before delivery, and in this way: A customer for our ore who owns collieries received the order for a cargo of coal with the understanding that the same vessel that brought the coal—160 tons—was to carry back the ore that had been waiting for shipment for several months past. The coal was sent fast enough, and delivered at our wharf, but the vessel immediately went away to ship ore from another place, and in the meantime the 160 tons of coal was charged and deducted from an amount due for a previous parcel of ore. That gentlemen, is how it happens that we have about two months' consumption of coal on hand paid for.

A SHAREHOLDER: We have the ore instead of the money.—The CHAIRMAN: That is so, but we want the ore away and the money at the bank to reduce our debt to the bankers.

A SHAREHOLDER: Why not send it by another vessel?—Capt. TEMBY: Our purser telegraphed me to do so without delay, and I was on the point of doing so, but as the purchasers are the shippers and not we, I was prevented by their shipping agent. We have ore on the wharf—a parcel of 60 tons—been waiting shipment for the last six months.

A SHAREHOLDER considered that the two months' consumption of coal ought not to have been charged in the accounts.—The CHAIRMAN did not think any objection should be raised to that, it was a fault in the right direction.

The accounts were then passed, and the report was received, when Captain TEMBY, in reply, said it was entirely owing to the breakage that the loss was so excessive. They had from 70 to 80 tons at the present time in course of dressing.

A SHAREHOLDER considered that credit ought to have been taken for it.

Mr. LOVELAND, also the Chairman, considered it objectionable to credit in the accounts ore not only unsold, but not even ready for sale. A question of call, after an amendment of 2s. 6d. per share not being seconded, resulted in 3s. per share being made.

A vote of thanks to the Chairman terminated the business of the meeting.

WEST POLDICE.—At the meeting on Tuesday the accounts showed a loss on the 16 weeks' working of 1289s. 6s. 3d. A call of 4s. per share was made. The agents' report was more hopeful and encouraging than any that have been presented for some time past. It stated that the 60 end was getting back towards Trefusis shaft; where, according to the plan of the old workings there was a valuable lode. This end has already commenced to improve. The 60, both east and west of Major's shaft, are also in very promising lodes, and the prospects of the mine were, on the whole, regarded as being very encouraging.

PHOENIX UNITED MINES.—At the meeting on Aug. 2 (Mr. Polkinghorne in the chair) the accounts showed a credit balance of 35s. 3s. 3d., but 800s. has been credited this time on account of tin not sold. In their report the committee regretted that a falling-off in the price of tin had injuriously affected the credits. They further reported that the agents had made arrangements to lessen the cost by suspending the working of tin ground of low produce. This would also lessen the cost

in the dressing department. The committee could not recommend a dividend on that occasion, but were pleased to find that the prospects of the mine were very encouraging. The agents, in their report, after detailing the various points of working, stated that the mine throughout at the various points of operation was of an encouraging character, and which they hoped would turn out to be equal to their expectations.

RIPON GOLD.—At the meeting at Bombay, on July 6, several ingots of gold, the result of the company's work during its few months' existence were exhibited. At any other time, says the Times of India, such a promising display might have been accepted as a favourable augury, but the fact that the company was on its last legs was well known to excite any hopeful feeling in the breasts of shareholders. The Chairman intimated that the directors were in favour of work being suspended for six months in order that they might see what measure of success attended the efforts of neighbouring companies. If it was found that gold could be obtained in paying quantities they might resume work, and if gold was not found they would not be in a much worse position than they were at the present time, as the expenses during the six months would be very small. Mr. Cassels was in favour of the company being wound-up immediately, and he embodied his ideas in an amendment to the Chairman's proposition. On being put to the vote, however, the amendment was lost, and the original resolution was subsequently carried.

FOREIGN MINES.

ALAMILLOS.—July 30: In the 29, driving east of San Martin's shaft, the lode is small, but well defined, yielding $\frac{1}{2}$ ton per fathom. The lode in the 60, driving west of San Felipe shaft, is large and strong, and has improved to $\frac{1}{2}$ ton per fathom within the last few days. The 50, driving in the same direction, is of no value at present. The lode in the 25, driving east of San Enrique shaft, produces stones of ore occasionally. In the 60, driving east of San Enrique shaft, the lode has become poor and small, and the driving is suspended. The 130, driving east of Taylor's engine-shaft, is passing through a large lode, which produces nice lumps of ore, valued at $\frac{1}{2}$ ton per fathom. The 130, west of Taylor's engine-shaft, is opening a long run of good stamping ground, worth 2 tons per fathom. The lode in the 80, driving east of San Victor's shaft, has declined to $\frac{1}{2}$ ton per fathom, which we hope is only temporary. In the 80, driving west of San Victor's shaft, the lode is yielding good stones of ore, valued at 1 ton per fathom. The lode in the 70, driving in the same direction, contains a little ore, but not sufficient to value. In the 70, driving west of Judd's shaft, the lode is small and regular, and produces a little ore. The 20, driving west of it, is of no value at present. The lode in Bartolo's winze is small, yielding $\frac{1}{2}$ ton per fathom, and the granite is still very hard. Antic's winze is sinking in a very fine looking lode, worth $\frac{1}{2}$ ton per fathom. The usual quantity of ore was weighed into the stores in the past month, and the stoves are yielding fairly well at present. The tributaries returned 230 tons of mineral for July. The surface works are going on regularly, and the machinery is in good working order. We estimate the raisings for August at 200 tons.

BELT COPPER.—A. Brand, July 20: Since last report, dated June 25, 1 have now to report as follows:—Champion No. 1 east is in good stamp work; we had been out of the vein for some time, but are now in it again. In No. 2 east we are now just coming into the vein once more. No. 2 west level looks well in stamp work. In No. 3 east we have now begun driving, and the level looks well in heavy copper. Champion winze is now down about 20 ft. in good heavy copper.—Knowlton: We have now started driving east; the vein continues as good as in the shafts full of heavy copper.—Wolsey Shaft: We are still driving to cut the vein. We have struck several small bunches of epilite very rich in stamp copper, but these are only bunches in the hanging. Railroad and stamp mill work have been much impeded by the wet weather we have had for the last fortnight. By the middle of next week the grading will be finished from a point opposite to the Knowlton shaft to the creek. —Stamp-Mill: The foundation of stamp-house is half completed. Wash-house, finished, and boiler-house all but the flue. The framing goes on rapidly, and by Aug. 1 the contractor calculates to begin raising. Blacksmiths' shop completed, foundation of office completed, frame of office nearly so. We have shipped 5 tons of mineral to Houghton, and will forward 2 tons to Fabbri and Chauncey as desired. With nothing further to report.

BRAZILIAN GOLD.—Manager, July 7: The writing of this letter is a most agreeable duty to advise on July 5 I dispatched the chief mechanic to Paris with a box containing 97,114 grs. of gold dust, equal to 16 lbs. 10 ozs. 6 dwt., also a sample of 1020 grs., together 17 lbs. 8 $\frac{1}{2}$ dwt. of gold. Also a sample of copper and large gold, which cannot be separated by washing. Writing of the mine the manager says:—In Wilson's, direct west, the only change I have to remark is that of a stronger general admixture of small cavities filled with oxide of iron, as before reported. When treated in the bates sample shows a trace of gold. At the depth—200 ft., and 591 ft. in the mountain—our meeting with a lode or quartz course in this beautiful killas would be most encouraging, we are constantly on the watch for a greater change. In Wilson's, direct north, we have a productive spar mixture in the forebreast, some of the stone samples. At Mata Mata west cross-cut, drifted 45 ft., total 108 ft. under the south end of the great chasm, we are not yet up to the course sunk on at surface and reported rich. We are opening large masses of auriferous ground above and below the level.

BUENA VENTURA.—Aug. 1: The lode in the 25, driving east of Atlanta shaft, is large and strong, yielding good stones of ore, worth 1 ton in a fathom. In the 25, driving west of Atlanta shaft, we have driven a cross-cut far enough south to prove there is no lode standing in the side. The men are now put to drive west. The lode is small and poor, but the ground is easy and inexpensive for driving through. In the 20, driving east of Taylor's engine-shaft, good driving is being done. The lode in No. 10 winze, sinking below the 15, is very open and easy for sinking, yielding 1 ton of ore per fathom. The ordinary surface works are going on with their usual regularity, and the machinery is in excellent working order. The tributaries continue to work well, and are returning a fair quantity of ore.

CALIFORNIA GOLD.—Alfred Rickard, July 14: The sinking of the shaft (now down 1454 ft.) and the working of the 1400 ft. level east and west is awaiting the arrival of the new ropes to be resumed with the usual activity. The 1500 ft. level west is down 75 ft., and continues to open out stamping ground of from 3 to 4 tons of milling ore per square fathom. It has reached a sufficient depth for being connected to the 1400 ft. The 1300 ft. level stoves west are putting out steadily 7 tons of milling ore and $\frac{1}{2}$ ton of smelting ore per square fathom. The extension of the stoves at the 1300 ft. west have now been carried 47 ft., and connected to the rise. The 1300 ft. rise, west of stoves, is up 29 ft.; work has been resumed. The lode at present is poor, but indications are good for discovering stamping ground. The 1250 ft. level stoves east has diminished in value, and will for a time be abandoned. The western portion yields 7½ tons of fair grade milling ore per square fathom. The output from the 1100 ft. level stoves is maintained fairly; the lode is yielding 10 tons per square fathom. The directors have been advised by the accumulation of water in the bottom of the shaft and lower levels in consequence of the breaking of the wire hoisting rope, necessitated stopping the mill for a few days, which had been running on ore from the old drift in the interval. The breaking of the old rope prevented any ore being obtained from the lower workings, whilst at the same time the usual amount of water could not be raised. But the directors are now advised that the new rope has been fixed, and that milling will be resumed on Monday next, so that the usual return may be looked for next week.

CHONTALES.—Manager, July 5: During the past month the main level

is now in 90 ft. from shaft. Indications improving for a body of ore, with seams of sulphur pointing north-west towards the footwall. The vein matter is carrying much more iron. The south drift in the 220 ft. level, from where I cut the footwall, is now in 50 ft.; no change. The side of the drift next to the footwall still with bunches of black ore. Would judge without surveying that we shall have to drive ahead some 63 ft. before we tap the chimney of ore, as there is a large body of very fine croppings on surface, which will take us ahead about that distance before we get in line of these croppings. The big stop at the head good ore.

KOHINOOR AND DONALDSON CONSOLIDATED.—The usual weekly report has been delayed in transmission.

LINARES.—Aug. 1: Pozo Ancho Mine: In the 130, driving east of Warne's engine-shaft, the lode is large and strong, and yielding fine lumps of ore, valued at 1 ton per fathom. The 130, driving west of Warne's engine-shaft, continues unproductive. The lode in the 115, driving west of Peill's engine-shaft, has improved to $\frac{1}{2}$ ton per fathom during the past fortnight. In the 135, driving west of Peill's, the lode is disarranged and unproductive. The lode in the 135, driving east of Peill's engine-shaft, is regular and well defined, yielding 1 ton of ore in a fathom. In the 135, driving south of Peill's engine-shaft, the ground is getting harder for driving through. The lode in the 105, driving east of San Francisco shaft, is small, consisting chiefly of quartz, and yielding a little ore, valued at $\frac{1}{2}$ ton per fathom. No. 249 winze, sinking below the 115, is hoisted to the 130. The lode in No. 251 winze, sinking below the 120, is large and strong, and of a promising appearance, its present worth being 1 ton of ore per fathom. The estimated quantity of ore was returned during the past month, and the stoves have not undergone any change worthy of remark. The work at surface is being kept on with its usual regularity, and the machinery is in very good working order. We estimate the raisings for August at 250 tons.

ISABELLE GOLD AND SILVER.—July 16: The 220 ft. level running north

is now in 90 ft. from shaft. Indications improving for a body of ore, with seams of sulphur pointing north-west towards the footwall. The vein matter is carrying much more iron. The south drift in the 220 ft. level, from where I cut the footwall, is now in 50 ft.; no change. The side of the drift next to the footwall still with bunches of black ore. Would judge without surveying that we shall have to drive ahead some 63 ft. before we tap the chimney of ore, as there is a large body of very fine croppings on surface, which will take us ahead about that distance before we get in line of these croppings. The big stop at the head good ore.

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east bord, 44 ft. It is not always possible to be working in the coal with the sinkers in the bottom, as it takes the engine all its time to draw water and stones from the bottom, but when it is possible we place men to hew the coal and draw it at old times when the sinkers are not in the bottom, by this means we will get the places in the No. 1 seam well planned out ready to start with a good number of men in it when the No. 2 seam is reached, and the cages are put in. I expect to strike the No. 2 seam somewhere about 35 ft. below the No. 1 seam, but we are as I before said undoubtedly on a fault at the shaft, which may make a little difference, but as I know the fault I do not think it will be much in the way, as I know there is coal on both sides of it, and the faults we may probably meet north and south of the Hels are all known to me, and I know where to find the coal on the other side of them until I come to the big dyke north, and to the supposed end of basin to the south. The coal seems to be working well to the east, and dipping at about 10 in. to the yard, instead of 2 ft. as at No. 2 shaft workings.

NEW EMMA SILVER.—George Collins, July 16: Since my report of the 9th inst, the cross-cut has been advanced 12 ft., making the distance from station 180 ft. I have stopped shaft for the present, because of hoisting engine being too small to do our present work. Sinking will again be resumed as soon as new engine can be put in place. Have started a level, running west on the vein, from cross-cut; both this level and the cross-cut are in very favourable-looking vein matter. Coal for the winter supply is being delivered. Pumps working nicely.

PESTARENA UNITED.—Samuel Gifford, Aug. 1: Monthly Report: At the Pestarena district the sinking of the incline shaft under the 130 has been resumed in a lode showing a small vein of low grade quartz. The north end of the 130, on No. 1 lode, is now yielding 3 tons of ore per fathom, worth 12 dwt. per ton. A good improvement has come in with a large lode, carrying two divisions of pyrites on the walls, which promises to continue. The end south is yielding 6 tons per fathom, at 1 oz. 4 dwt. of gold per ton. The lode has a split of quartz and pyrites making in the western side and appears about to improve. The 120 north is now in rock schist, with a small vein of sterile quartz, all ore having disappeared. The 80 north being now beyond the dip of the ore shoots from above and continuing barren is suspended. On No. 5 lode the 90 north is yielding 7 tons per fathom, at 6 dwt.; the lode increases in size, being now 4 ft. wide, mostly of low grade quartz. The 90 south carries a little arsenical pyrites in a large lode of schist, but gives no ore to value. The 80 north is mostly in sterile schist, with a layer of decomposed shale impregnated with pyrites. The 80 south continues in a good-sized lode sparsely impregnated with pyrites, and yielding a little milling stuff. The 55 south is in slate and jointed siliceous rock, with a small branch of felsite underlying east. The 55 south seems about to show a change of dip in the lode as found in the other levels, and shows a small branch of sterile shale only. The 33 north goes forth in a large sterile lode of mixed quartz and schist, the ore lately opened having died out. The adit driving south at Pozzono has shown a little ore with a divided lode, the rock being generally of a more kindly character than seen for some time past. The ore milled for July was 618 tons, which yielded 378 ozs. 13 dwt. 12 grs., or an average of 12 dwt. 6 grs. per ton.

POTOSI.—Telegram, July 20: All works on Chile lode at Peru running at full swing; 30 stamps running.

RHODES BEEF GOLD.—Mine Manager, July 6: I am driving Nos. 1, 3, and 4 tunnels, and continuing No. 1 drive south, in which we have a fair reef 2 ft. wide, containing a little gold, and coming in better. We are also raising up to the surface on the reef in No. 1 drive. No. 1 tunnel, which is being driven on a large reef containing a little gold, is being turned to the east, and I am also putting in another tunnel, which will strike the reef in about 50 ft. more. We are keeping for milling only such quartz as we judge will pay, and I am piling it up, and while crushing it intend to treat the blanket and baffle sand in store.

RICHMOND CONSOLIDATED.—Telegram, Aug. 7: Week's run (one furnace), \$15,000, from 297 tons of ore; refinery, \$18,000.

S. Longley, July 15: The 100 south drift from station has been run 19 ft. Total 571 ft. In limestone. The 100 north-west drift from above has been run 11 ft. Total 71 ft. On fissure in limestone. The 300 south-west drift from above with a marked throw on the line of division of its whole thickness; the appearance of it is very promising, and it is yielding 5 tons per fathom at 8 dwt. per ton. A trial winze on the quartz bed under the level is producing 12 tons per fathom at 7 dwt. per ton. This is put down to test a discovery lately made of a quartz mass forming against a cross-course, and going out flatly east, but the shape and direction are not yet fully developed. A rise south on new lode follows a small vein of quartz, which occasionally carries auriferous pyrites, and now yields 3 tons per fathom at 8 dwt. A cross-cut east from the stopes in the back is being started to prove the ground above the large quartz bed worked in the flat stopes, below where broken veins are seen rising out of it. During July 292 tons of ore were crushed, and 131 ozs. 2 dwt. of bar gold produced, showing an average yield of 8 dwt. 6 1/2 grs. per ton.

PITANGUI GOLD.—A telegram from Rio de Janeiro, dated Aug. 8, states that the produce for July was 550 tons of gold, worth, at 8s. 6d. per oz., 361,55s.

PONTIBAUD.—W. H. Rickard, Aug. 1: Rouse: The 225 metre level, south from Taylor's shaft, continues in a regular lode, composed of quartz, but yielding no ore of value. The 200 metre level south is unproductive. No. 2 winze, below this level, yields a little low grade ore. The stopes in the back yield fair quality stuff. The stopes in the 100 metre level south, on Virginie's lode, yields low quality ore. The intermediate level, above the 100, has opened some stoping ground against the slide, worth 1/2 ton of ore per current metre. The 80 metre level north, on eastern split of Virginie's lode, yields a little low grade ore. The 60 metre level, north of Boissay's winze, is unproductive. The same level on the northern split of the lode yields 1/2 ton of ore per

current metre. The 20 north, on the eastern part of Virginie's lode, is suspended, and a cross-cut commenced from the main lode further north. The 20 south is also suspended, and the driving of the same level on the Virginie lode resumed. Our stopes generally throughout this mine are diminished in yield.—**St. Denis:** The 50 metre level north yields a little low grade orestuff. Finding the eastern part of the lode on which the 50 south was being driven to be very narrow we drove a cross-cut and intersected the western part of the lode, which is 1 metre wide, of a soft unproductive gangue, and letting out water very freely; we have set to drive on its course. The lode in the 30 metre level north produces a little fair quality orestuff for a width of 60 centimetres. The cross-cut in the 30 south has intersected the lode under the winze, where it is 60 centimetres wide, and showing spots of ore. The lode in the winze at the present time yields some stones of ore. The adit level south of the shaft, on the eastern vein, produces a little saving work.—**La Brousse:** The 200 metre level, north from Alice's shaft, yields low quality orestuff. The rise in the same level south will be communicated with the winze from the 160 during the present month; both points produce a little ore. The 120 metre level north is unproductive. Our stopes have produced fairly, but the falling off in the tribute pitches continues.—**Pranal:** The 110 metre level north yields 1/2 ton of ore per current metre. The same level south yields 1/2 ton of ore per current metre. The cross-cut in the 90 south has intersected a second unproductive vein. We hope during the present month to communicate with the winze on the main lode. The 70 metre level north, on caunter lode, continues in disturbed unproductive ground. The same level on the direction of the main lode continues poor. The 70 metre level south yields 1/2 ton of ore per current metre. Our stopes and tribute pitches throughout this mine maintain their yield.—**Surface:** The surface on the 90 south has intersected the lode under the winze, which promises to continue. The 60 metre level south is yielding 6 tons per fathom, at 1 oz. 4 dwt. of gold per ton. The lode has a split of quartz and pyrites making in the western side and appears about to improve. The 120 north is now in rock schist, with a small vein of sterile quartz, all ore having disappeared. The 80 north being now beyond the dip of the ore shoots from above and continuing barren is suspended. On No. 5 lode the 90 north is yielding 7 tons per fathom, at 6 dwt.; the lode increases in size, being now 4 ft. wide, mostly of low grade quartz. The 90 south carries a little arsenical pyrites in a large lode of schist, but gives no ore to value. The 80 north is mostly in sterile schist, with a layer of decomposed shale impregnated with pyrites. The 80 south continues in a good-sized lode sparsely impregnated with pyrites, and yielding a little milling stuff. The 55 south is in slate and jointed siliceous rock, with a small branch of felsite underlying east. The 55 south seems about to show a change of dip in the lode as found in the other levels, and shows a small branch of sterile shale only. The 33 north goes forth in a large sterile lode of mixed quartz and schist, the ore lately opened having died out. The adit driving south at Pozzono has shown a little ore with a divided lode, the rock being generally of a more kindly character than seen for some time past. The ore milled for July was 618 tons, which yielded 378 ozs. 13 dwt. 12 grs., or an average of 12 dwt. 6 grs. per ton.

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RIO GRANDE DO SUL (BRAZIL) GOLD.—Henry Eddy, June 23: **Serrito Mine:** On further development I find that at the point where the productive leader contained visible gold a small branch has come out of the footwall, thus improving the lode for a length of 4 ft.; beyond this the lode is of low quality, but I shall prosecute the drivage a little farther east. In depth the lode is 1 1/2 ft. wide, and of a much more solid nature, evidently undergoing some change, as the special leader and the other part are formed together without any division joint. The lode is more freely spotted with galena than other I have developed here, but produces on account of its increased size less gold per ton than when it was a few inches wide. Report of results will be forwarded next week.—**Aurora Mine:** I removed the men from the bottom of the mine on the 13th to work along the surface in the porphyritic granite, where I consider there are better chances of success. I have also temporarily suspended No. 2 west, as the driv-

age of No. 1 (nearly 10 fms. from surface) will fully prove the lode in this direction. On any important improvement in No. 1 the drivage of No. 2 could be easily resumed. There is no material change elsewhere. Full report with measurements will be forwarded next week.

RUBY AND DUNDEBERG CONSOLIDATED.—July 15: **Dunderberg:** There is no material change since my last; there are 17 tributaries at work. Have shipped 14 tons tribute ore this week. The drift from the upraise above the 300 ft. level has been advanced 15 ft. during the week; total 50 ft. from the upraise. Three men at work.—**Home Ticket:** The new shaft has been sunk 10 ft. this week, total 161 ft. below the surface; a drift was commenced to-day in the direction of the ore body from the bottom of the shaft. The stopes are producing the usual quantity of ore. The ore in the north stop is somewhat smaller, but it has the appearance of widening out again. Have shipped 118 tons ore this week; 19 men at work.—**Lord Byron:** The tunnel has been advanced 22 ft. this week; total 127 ft. Four contractors at work.

Telegraph, Aug. 7: 90 tons ore shipped; 54 tons smelted, realising net \$1729; 26 tons ore shipped, and 16 tons smelted, producing to company \$162.

SANTA BARBARA GOLD.—A telegram from Rio de Janeiro states that the produce for July was 2000 ots. of gold, worth at 8s. 6d. per oz. \$502, and would probably leave a profit on the mine working account for the month.

SENTEIN.—**M. Scantlebury, Aug. 2:** For the moment we are not doing any stopping in the back of No. 4 level except at surface, where the lode for a width of 3 metres will produce 5 1/2 cwt. of lead and blonde ores per cubic metre. The stopes under the old workings in No. 4 level are producing 11 cwt. of lead and blonde ores for a width of 2 1/2 metres per cubic metre. Stop No. 1 in No. 3 level east is set to eight men to stop at 20 ft. per metre cube; lode producing 10 1/2 cwt. of lead and blonde ore per cubic metre for a width of 3 1/2 metres. Stop No. 2 in the back is set to eight men for the sum of 20 ft. per metre cube; lode producing 11 1/2 cwt. of lead and blonde ores per cubic metre for a width of 3 metres. Stop No. 3 in the back is set to eight men for the sum of 23 1/2 ft. per metre cube; lode yielding 12 cwt. of lead and blonde ores per cubic metre for a width of 3 1/2 metres. Stop No. 4 in the back is worth 13 cwt. of lead and blonde ores per cubic metre. I hope to set this in a few days. Rise above this level is set to six men for the sum of 300 ft. per cent. per cubic metre; lode yielding 10 1/2 cwt. of lead and blonde ore per cubic metre for a length of 2 metres 50 centimetres 1/2 ton of lead and 3 tons of blonde ores. You will see that we are opening out a good piece of stoping ground here, this is the same bunch of ore we have at the St. Amelie level.—**St. Amelie:** Stopes Nos. 1 and 2 are set to 18 men for the sum of 20 ft. per metre cube. The lode will average 3 1/2 metres in width, and is worth fully 17 1/2 cwt. of lead and blonde ores per cubic metre. During the past month we have sent 1578 tons of crude ore to the floors, producing 9 per cent. of lead ore and 25 per cent. of blonde ore. There are now about 620 tons of crude ore at the mine, which I estimate to produce 54 tons of lead and 125 tons of blonde ores. The reason why the stock of ore has diminished is owing to so many of our miners having left for the harvest season. This has not affected us so very much. The cost at the mine for the month of July is nothing near so much as it was for the month of June, while on the other hand we have a pretty fair stock of crude ore in mine, and the men are now returning again to their places. A week since several of our miners gave in their notices, but have now withdrawn them. I am very pleased to be able to inform you that the discovery at the St. Amelie level is the best that has been made in the mine for years. We shall push ahead as fast as possible and do our utmost to still increase the returns. The cable is working well.—**Dressing Report for July:** Ore sent to dressing-floors, 1578 tons; ores dressed 1671 tons; market lead produced—first-class 76 1/2 tons; second-class 47 tons; third-class 15 1/2 tons; blonde ore produced; first-class 236 tons; second-class 167 1/2 tons.

ST. JOHN DEL REY.—Telegram from Morro Velho, dated Rio de Janeiro, Aug. 10: Produce for the month of July 17,500 ots.; value, \$7817.; yield, 10 1/2 cwt. per ton, Cuba: 1350 tons stamped; yield 1 1/2 cwt. per ton.

UNITED MEXICAN.—Mr. Hay, Guanajuato, July 7: Mine of San Cayetano de la Ovejera: In the fronte of San Juan the ore measures now 80 centimetres, but it is in a ramified state, and, therefore, the produce is small; 37 1/2 cwt. of ore is produced to Duran this week. In the contracielo of San Juan the quality of the ore is pretty fair, but the width of the lode has decreased to 1 metre, of which only 25 centimetres are productive. We have sent this week 21 1/2 cwt. from this working to Duran. In the fronte No. 2 of Santa Rosa west the claim seems to improve, while the breadth of the ore has increased to 45 centimetres. It is, therefore, supposed that the upper part of the ore we worked on in San Juan will soon be reached; 17 1/2 cwt. cargas were sent to Duran. In the contracielo of San Andre's the lode is 1 1/2 metres broad, and the class of ore is perhaps not so good as it was last week. We remitted 52 cargas from this working to Duran this week. In the fronte No. 2 of San Andre's east the ore is good; but its width is reduced to 40 centimetres, and we have sent 21 1/2 cwt. cargas to Duran. In the fronte No. 4 of San Andre's east the end is very pretty, showing good ore on a width of 1 1/2 metres. The hollow I spoke of continues to be seen in our advance trending off to the site, and leaving the lode to the baje all in ore. The extraction of ore from this end has been 163 1/2 cwt. cargas, remitted to Duran this week. In the poz No. 1 of San Andre's the quality of ore seems to be improving gradually, and the width of it has increased to 1 1/2 metres. We have sent 15 1/2 cwt. cargas to Duran this week. In the poz No. 2 of San Andre's the lode has a breadth of only 33 centimetres. 11 cargas have been sent to Duran. The extraction of ordinary ore from all the workings during the week has been 105 cargas, which, altogether, makes 449 cargas hacienda ore sent to Duran; and I have sold 3 cargas 1 arroba 17 lbs. of bonito (the whole coming from fronte No. 4 of San Andre's east); total extraction 452 cargas. Returns from the mine of San Cayetano de la Ovejera for the two weeks ending July 7 \$11,625.14; outlay for the same period \$8335.

YORK PENINSULA.—The directors have received advice from the committee of inspection of the company at Adelaide, with reports from the Kurilla Mine to June 5. The following are extracts from the report of Captain Thomas Anthony:—In handing you my monthly report on the mine on this occasion it will not be necessary to give you the lengths of the drivages, &c., as a month hence I shall forward my yearly report to the end of the present month.—**Kurilla Lode:** At the 80, east of Hall's shaft on this lode, no change has taken place, nor do I anticipate any until the slide is reached, which it may be at any time during the ensuing month, and when ore may be reasonably expected. At the 67 east, on the south part, the lode is worth 2 tons of 16 per cent. ore per fathom. On the north part, at the same level, the lode still holds in this side, and is worth 3 tons of 16 per cent. ore per fathom. The lode in the 55 east (in section 398) on the south part is worth 3 tons of 16 per cent. ore. At the 35, on the south part (398), the drivage has entered the ore ground driven through at the 45 and 55, and the lode is worth 3 tons of 16 per cent. ore per fathom. At the 25 I am driving east and west of the new haulage shaft (398), the lode averaging 2 tons of 16 per cent. ore per fathom. At the 20, south of Gurner's shaft (398), some good pockets of ore occur in driving east of the branch discovered by the cross-cut, but no regular lode is yet met with. The same branch in the 10 above is also yielding some good stones of ore, but only in pockets. The stopes on this lode continue without material alteration, and there is an appearance of permanency throughout the whole of the operations.—**Morphett's Lode:** The winze sinking below the 55 to further ventilate the 67, and facilitate the stoping of the lode, is worth 3 tons of 16 per cent. ore per fathom, and the stopes are looking well throughout.—**Machinery, &c.:** The machinery throughout is working satisfactorily.—**Ore Returns:** There were raised during May 450 tons of ore of 14 per cent. There was sold in the colony 342 1/2 tons, and there remained on hand at the mine at May 31, 1937 tons, averaging 14 per cent.; of this 200 tons of from 17 to 18 per cent. was being shipped to England.

TEPLITZ ROLLING WORKS COMPANY.—The balance-sheet of this company for the past financial year shows a gross profit of 23,643., against 20,107. for 1881-82, and a net profit of 14,198., against 11,634. in 1881-82. The directors recommend a dividend at the rate of 15 per cent., against 13 per cent. for the previous year.

WIGAN COAL AND IRON COMPANY.—The report of the directors for the half-year ending June 30 states:—The output of coal has slightly increased. The demand for fuel was better maintained than in the corresponding half-year, but fell off as summer advanced. The prospects of increased prices for coal and slack, upon which the wages paid at collieries in this district were advanced 10 per cent. last winter, have not been sustained, and as there has been no reduction whatever in wages, the result is a serious diminution in the amount of profit which the company would otherwise have made. Seven iron furnaces were at work during January; since that time six only have been in blast. The work for the production of Whitewell stoves has been continued, and is nearly completed. Prices of iron have been lower, and the trade has been in a very languid and unprofitable condition. The new line proposed to be made by the Lancashire and Yorkshire Railway Company from Hindley to Pendleton would have prevented the company from making a projected colliery railway for connecting Eattock's Pits with their sidings at Westhoughton. The company opposed the bill, and after a good deal of negotiations terms were made by which a substantial sum of money is to be paid by the Lancashire and Yorkshire Railway Company as compensation. The Manchester, Sheffield, and Lincolnshire Railway Company promoted, and have carried through Parliament a bill for the extension of the Wigan Junction Railways through Longton, near Preston. Satisfactory arrangements have been made for communicating with the proposed new railway at several convenient points on the company's premises. The accounts for the six months ending June 30 are presented duly audited. The result is a profit of 3917. 5s. 9d. on the whole operations of the company. The amount carried over from last half-year's profits was 19582. 19s. 8d., making together 5850. 5s. 9d. Your directors propose to withdraw 3200. from the reserve fund, which with the above profit will make 9086. 5s. 9d., and they recommend a dividend after the rate of 1 per cent. per annum upon the paid-up capital of the company, free of income tax, which will absorb 9

Mining Correspondence.

BRITISH MINES.

ANDERTON.—W. J. Bowhay, Aug. 8: We have little new to report this week. We are very busy, and pushing on all parts of our work with energy. We are stopping the lode, which is about 10 ft. wide, tinny throughout. There is a horse of killas in it, but the leader is 5 to 12 in., and carries very rich tin-stuff of a produce equal to any previously reported. The stamping and dressing are proceeding satisfactorily, and we shall have a parcel of tin for market in 10 days or a fortnight. The engineers will shortly finish the erection of the engine, and our pumping gear will be ready by the time the engine is ready for it, and very shortly after the 20 fm. level will be cleared of water, and that fine shoot of tin we left going down in the bottom of the winze will enable us to make a large increase to our returns of tin. In anticipation of this an additional 20 heads of stamps have been purchased, and will be erected to be driven by the engine, so that we shall have no interruption by the water falling slack. This will more than double our stamping power, and correspondingly add to our returns. Our outlays at present are very heavy, but will soon alter the whole surface works. I fully expect then to be able to prove by increased sales of tin that Anderton mine is all I have ever said of it.

BEDFORD UNITED.—H. Trezise, Aug. 7: I beg to hand you my setting report for eight weeks ended Sept. 29. North Lode: The 115 east to drive by two men, at 102. per fathom; lode in the present end producing a little ore, but not enough to value. The 115 west to drive by two men at 92. 10s.; lode in the present end is 1 ft. 6 in. wide, producing mundic and ore. The 103 west by two men, at 82. per fathom; lode unproductive. The stopes behind this end I propose to set to tribute. We have five tribute pitched tributes varying from 9s. to 15s. in 1., and will produce 2½ tons of ore per fathom, and worth 82.—McCallum's Shaft Bridge Lode: The side of the level at the 62 to take down and trip-plat to cut, as per bargain, 35f. The 62 east to drive by six men, at 71.; lode worth 82. and 2 tons of ore per fathom. The 62 west to drive by six men, at 41. 10s.; lode 3 ft. wide, of a very promising character, composed of capel, mundic, and some good black oxide of ore of excellent quality. The 42 east to drive by two men at 51. 10s.; lode unproductive. Stope in the back by two men at 21.; lode worth 62. and 2 tons per fathom. The 30 east by two men at 51.; lode unproductive. No. 1 stope in the back, at 12. 15s., per fathom, by two men; lode worth 62. and 1½ tons per fathom. No. 2 by four men, at 31. 15s.; lode worth 102. and 3 tons per fathom. The winze sinking west of shaft by six men, at 82.; lode 3 ft. wide, of a very promising character, composed of mundic, capel, and some good black ore.

BLUE HILLS.—S. Bennetts, R. Harris, H. Gripe, Aug. 8: The Pink lode in the 66 east end is much the same as last noticed, and worth 72. per fathom. The Baldwin lode in the 54 west end is 1½ to 2 ft. wide, yielding saving work of low quality. The 42 east end is worth 52. per fathom. The other points of operation are without much alteration.

BRADA.—R. Rowe, Aug. 8: The lode in the 40 end driving north maintains the improvement reported last week, and will yield about 3 tons of high quality ore per fathom. In Prior's or 54 south the cross-cut intersected yesterday a rib of rich grey and yellow ore about 6 in. wide, which will yield 1½ ton of rich ore per fathom, and we are not yet through that part of the lode. The water has been forked down 15 fms. under Prior's, and yesterday we were enabled to get into the new level, which consists of a cross-cut driven into the lode to the extent of 15 ft., but which is not yet through the lode; for the width of the 15 ft. the lode consists of copper, barytes, and sphæros iron. As the cross-cut is only part way through the lode we shall continue it, and I have no doubt soon prove that there is a lode of immense width and value at this point.

BWLCH UNITED.—W. Northey, Aug. 8: The lode in the 100 is without change since my last advice; it still continues to look well.

CARNARVONSHIRE GREAT CONSOLS.—W. H. Borlase, Aug. 8: We have during the past week made the progress as formerly in sinking the new shaft below the 24 in consequence of having to stop the engine to make some minor repairs, and also to stay up lift, fix headers, &c., but we are now again in fork, and I trust shall have no more lets until the sink is complete. No alteration in the lode since last week.

CARN CARMORNE.—W. G. Vivian, Aug. 8: You will be pleased to receive the following as my report on the present appearances here:—In the 105 cross-cut south there is no change in the character of the rock worth remarking on. In the 50, south of the 100, on the south lode, we have a lode of great size, the principal part of which is chlorite, containing, however, some prian and rich yellow copper ore. We are opening through the central part of the lode, leaving a considerable portion standing both to the north and south, which will be cut into as we advance further east. The rise in the back of the last named level, west of the 15 ft. the lode consists of copper, barytes, and sphæros iron. As the cross-cut is only part way through the lode we shall continue it, and I have no doubt soon prove that there is a lode of immense width and value at this point.

FRONGOOGH.—J. Kitto and Son, Aug. 4: The winze being sunk below the 56 is down 9 fms., in a large, fine looking, and productive lode. The part taken by the winze is about 5 ft. wide, and yields profitable quantities of lead and blende, besides which there is good ore standing on the south side. We have closely examined the 66, and are of opinion that the lode on which the winze is being sunk is standing entirely to the north of this level, which is an important matter considering the length and value of this shoot of ore. There is no alteration to notice in any other part of the mine. We are short of water for dressing, but have a good heap of orestuff on the surface awaiting treatment.

EAST WHEAL LOVELL.—R. Quantrell and Son, Aug. 9: Engine Lode: The stopes in the back of the 46, east of engine-shaft, is worth 92. per fathom.

ROGONIN.—J. Kitto and Son, Aug. 4: The winze being sunk below the 56 is down 9 fms., in a large, fine looking, and productive lode. The part taken by the winze is about 5 ft. wide, and yields profitable quantities of lead and blende, besides which there is good ore standing on the south side. We have closely examined the 66, and are of opinion that the lode on which the winze is being sunk is standing entirely to the north of this level, which is an important matter considering the length and value of this shoot of ore. There is no alteration to notice in any other part of the mine. We are short of water for dressing, but have a good heap of orestuff on the surface awaiting treatment.

SHAW.—R. Quantrell and Son, Aug. 9: The lode in the 66 end west of the 50 is 102. per fathom, and is disordered by a cross-joint, and yields little ore. In the stope over the 92 west the lode is from 3 to 4 ft. wide, yielding 1 ton of lead ore per fathom. In the stope over the 80 west the lode is large, and not so productive, at present yielding 15 cwt. of lead ore per fathom. We have taken out several parts of the engine, and the boilers will soon be cleared and in readiness for pulling out. We have rain almost daily, and an abundant supply of water for drawing and dressing, which is steadily carried forward, and fair progress is being made towards our next sampling.

EAST LONG RAKE.—H. B. Vercoe, T. Davies, Aug. 9: The lode in the 60, south of sump, continues hard; it produces lumps of ore occasionally, but not enough to value. According to the 50 we should have a favourable change in the 80 immediately, as this hard bar of ground was only very short in the 50, and on each side a good course of ore. In the roof of the 50 west we are getting some good quality leadstuff for dressing, some lumps upwards of ½ cwt. each in a very fine-looking lode, and easy for working; its produce may be set at fully 15 cwt. of lead per fathom. There is no change in the 50 east to notice, nor in any other part of the mine. We are short of water for dressing, but have a good heap of orestuff on the surface awaiting treatment.

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EAST LONG RAKE.—H. B. Vercoe, T. Davies, Aug. 9: The lode in the 60, south of sump, continues hard; it produces lumps of ore occasionally, but not enough to value. According to the 50 we should have a favourable change in the 80 immediately, as this hard bar of ground was only very short in the 50, and on each side a good course of ore. In the roof of the 50 west we are getting some good quality leadstuff for dressing, some lumps upwards of ½ cwt. each in a very fine-looking lode, and easy for working; its produce may be set at fully 15 cwt. of lead per fathom. There is no change in the 50 east to notice, nor in any other part of the mine. We are short of water for dressing, but have a good heap of orestuff on the surface awaiting treatment.

EAST WHEAL LOVELL.—R. Quantrell and Son, Aug. 9: Engine Lode: The stopes in the back of the 46, east of engine-shaft, is worth 92. per fathom.

ROGONIN.—J. Kitto and Son, Aug. 4: The winze being sunk below the 56 is down 9 fms., in a large, fine looking, and productive lode. The part taken by the winze is about 5 ft. wide, and yields profitable quantities of lead and blende, besides which there is good ore standing on the south side. We have closely examined the 66, and are of opinion that the lode on which the winze is being sunk is standing entirely to the north of this level, which is an important matter considering the length and value of this shoot of ore. There is no alteration to notice in any other part of the mine. We are short of water for dressing, but have a good heap of orestuff on the surface awaiting treatment.

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EAST LONG RAKE.—H. B. Vercoe, T. Davies, Aug. 9: The lode in the 60, south of sump, continues hard; it produces lumps of ore occasionally, but not enough to value. According to the 50 we should have a favourable change in the 80 immediately, as this hard bar of ground was only very short in the 50, and on each side a good course of ore. In the roof of the 50 west we are getting some good quality leadstuff for dressing, some lumps upwards of ½ cwt. each in a very fine-looking lode, and easy for working; its produce may be set at fully 15 cwt. of lead per fathom. There is no change in the 50 east to notice, nor in any other part of the mine. We are short of water for dressing, but have a good heap of orestuff on the surface awaiting treatment.

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driving 32.5s. per fathom. We have four men rising and stoning in the back of the back of the 65, west of Gerry's cross-cut, at 32.5s. per fathom; the lode here is 12 ft. wide, and producing 12 tons of arsenical ore per fathom. The stope in the back of the 50, on the intermediate lode, is working by two men, and the lode is producing 5 tons of arsenical ore per fathom. No. 1 stope, in the back of the 65, in the western part of the mine, is set to four men, at 42.10s. per fathom; lode 6 ft. wide, and producing 10 tons of arsenical ore per fathom. No. 2 stope is set to four men at 42.4s. per fathom; lode producing 8 tons of arsenical ore per fathom. The stope in the bottom of the 35 is not set; lode worth 7 tons of arsenical ore per fathom. The stope in the bottom of the 20 is set to four men at 51. per fathom; lode 5 ft. wide, and yielding 10 tons of arsenical ore per fathom.

OLD SHEPHERDS.—R. Nancarrow, J. Nancarrow, Aug. 7: In handing you our fortnightly report we are glad to say our new plunger lift has gone to work and answering admirably, and after dividing and casing the shaft to the present depth we shall at once proceed in clearing the shaft and draining the mine to a deeper level. This will be done with much greater dispatch than hitherto, as our drop-lift will be very much lighter, and every energy will be put forth to reach the bottom of the mine as early as possible.—Teague's Shaft: In clearing the 64 west good progress has been made, and we have found a part of the lode left standing, from which we have broken some splendid lead work; this will soon be available for tribute. In clearing the old sump shaft we think, from present indications, we are very near the back of the 54. At this shaft we have erected a shaft tackle preparatory to fixing the skip-road. The end driving east of Teague's shaft, on branch at the 34, has rather fallen off in value, but the stope in back of this level will produce 7 cts. of silver-lead ore per fathom. The end driving north-west on caunter lode at this level has very much improved in appearance, producing stones of lead ore, and where we have expect a further improvement. The stope in back of 54 will produce 3 1/2 tons of blonde and 10 cts. of lead per fathom. The tribute pitches have rather improved since our last report. All surface work proceeding favourably, and we are preparing parcels of lead and blends for the market.

OWEN VEAN AND TREGURTHA DOWNS.—William Hancock, Aug. 8: South Lode: Engine-Shaft: The water is forced down to the back, or almost to the 40, and in a few days more the level will be free of water. The 30, although not cleared and secured as yet, enough can be seen of the lode, which is large, to produce large quantities of good quality tinwork. The Black shaft is cut down and secured about 5 fms. below the 20. In a week or so it will be complete to the 30, when the level will be thoroughly cleared, and very shortly after large quantities of the lode can be sent to surface. Three stoves are being worked in the back of the 29, producing capital tinwork; the ground is easy for working, the lode varying from 2 to 6 ft. wide. The most productive part, which is saved separately, is from 1 1/2 to 3 ft. wide.—North Lode: Water stile shaft is cut down and secured within 2 or 3 fms. of the 30, and will soon be available to command the ores and debris from the different levels from the extensive workings about this shaft. At the 20 and below large quantities of tin must have been taken away from the lode and elvans by the former workers. Capital tinwork can now be broken in the end of the shaft. The tinstuff, which is being carted to the water stoves, is turning out very satisfactory. A parcel of tin will shortly be sold, and operations commenced for the new stamping on the mines. The carriage attached to the steam-captain for drawing staff from the different shafts is almost completed, and preparations are making to attach the balance-bob at surface to the large pumping-engine. The mine so far is realising more than the most sanguine ever expected, and bids fair to be a great success.

OWEN VEAN AND TREGURTHA DOWNS.—W. Derry, Henry Prin, Aug. 9: We were in fork 10 fathoms below the 30 on Sunday last, but the water rose again nearly to that level, owing, it is supposed, to the bursting of a dam of slate in the cross-cut at the 40, leading to the workings on the northern lodes. Draining has, however, been again carried to the same spot, and the standing bucket lift is being prepared there. The principal underground operations are at present confined to the preparation of the skip-road shafts for drawing, and clearing the levels and laying open ground for stoning. This latter work is far advanced in the 20, in the back of which, on the south lode, there is standing sufficient productive ground to supply a large run of stamps for a very long time. The 30 has been explored as far as it was possible to do so in its partially choked condition, and, as far as can be seen, the lode is generally standing whole, both in the back and bottom, and is productive of excellent work for tin. In the 40, according to a section of the old mine, very little ground has been stoned, and from its productiveness in the bottom of the 30 it is anticipated that the clearing of the former level will open up an immense quantity of rich stony ground. The old miners seem to have disregarded tin altogether in their pursuit of copper. It is hoped that the 30 end will soon be driven west so as to get underneath a shoot of copper ore, which, according to the section referred to, has gone down in the bottom of the level above. The northern lodes, where they can be reached, produce rich tinstuff, but until the 40 cross-cut can be cleared their size and value cannot be precisely stated. The surface works are proceeding rapidly, and by the time the powerful battery of pneumatic stamps is erected every department will be in readiness to co-operate and keep them going on such quality work as will yield large profits.

PANDORA.—W. H. Borlase, Aug. 9: The shaft is now repaired to the 33, and we are winding from that point to-day. The whole of the tribute pitches are producing good lead and blonde. The 13 on No. 2 east and west lode is steadily improving, now worth from 16 to 22 cts. of lead per fathom. This end, doubtless, will open out a large section of profitable stoning ground; I shall be disappointed if this lode does not prove to be the main lead-bearing lode of the mine, to prove which we have only to drive cross-cuts of 5 1/2 fms. long from the 33, 44, and 55, from the hanging-wall of No. 1 east and west lode. At the 23 a cross-cut is driven 4 fms., leaving only 9 ft. to drive. I feel confident by driving these cross-cuts we shall open up a mine of great productiveness, and a source of profit to the proprietary, independent of the large amount of ore available in the old workings.

PARYS COPPER CORPORATION.—T. Mitchell, Aug. 9: The ground in the 90, east of cross-cut, continues to look very kindly; we have some small strings of copper going forward with the end, which we hope will lead to something valuable. The end driving west of cross-cut at this place is also presenting a promising appearance; the ground is changing for the better.

PENHALLS.—S. Bennetts, J. Goyne, Aug. 8: The lode in the 80 west end continues to produce low quality tinstuff; not of much value. In the 70 east end the lode, although small, is composed of tolerably good tinstuff, and worth 7s. per fathom. The 60 east end is without much change; a similar remark applies to the 60 cross-cut north. The lode in the rise above the 50, south of engine-shaft, is worth 4s. per fathom. On the Bodmin lode the 42 west end is in the vicinity of the cross-course, and at present unproductive.

POLROSE.—W. Bennett, Aug. 6: Last Saturday being our pay and setting day, we set the shaft to sink, by 12 men, at 2s. per fathom. The lode is improving as we sink, and I have never seen it look more promising than it does at present. It is still producing large quantities of mundic, and some parts of it are yielding good work for tin. The country about the shaft is highly mineralised, and I fully expect that we shall shortly have a much improved lode, for I cannot but think that the quantity of mundic we are meeting with must proceed from a deposit of tin not far distant.

PRINCE OF WALES.—S. Roberts, Aug. 8: Setting Report: The 102 west, to six men, at 8s. per fathom; lode 6 ft. wide, worth 11s. per fathom for tin and copper ore. The 102, east of cross-cut, to four men, at 9s. per fathom; lode 3 ft. wide, worth 8s. per fathom for tin and copper. The stope in the back of this level, to four men, at 32.10s. per fathom; lode 5 ft. wide, worth 10s. per fathom for tin and copper. The cross-cut south at the 102 east, to six men, at 5s. 10s. per fathom. The 90 west, to four men, at 8s. per fathom; lode 7 ft. wide, producing copper ore and tin throughout, but as yet not much to value. Stope in back of the 90 west, to four men, at 6s. per fathom; lode 3 ft. wide, worth 7s. per fathom. No. 1 stope, in back of the 90 east, to three men, at 7s. per ton of tinstuff and 10s. in 12 ft. for copper. No. 4 stope, to four men, at 6s. per fathom; lode 3 1/2 ft. wide, worth 7s. per fathom. Cross-cut north at the 55 west, to two men, at 5s. per fathom. We have four tribute pitches working by 10 men, at 13s. 4d. in 12.

ROMAN GRAVELS.—A. Waters and Son, Aug. 9: The lode in the 125, north of new engine-shaft, is about 3 ft. wide; worth 20s. per fathom lead ore per fathom. The same level south is in a lode 8 to 9 ft. wide; also worth about 1 ton per fathom. The 110, north of flat-rod shaft, is opening out a promising lode, which will no doubt turn out a good deposit of ore between present end and the shale a good distance away. The stope in back of 110, south of the said shaft, are worth together about 5 tons per fathom. The rise in 110, south of the new engine-shaft, going up directly behind the end, is up 4 fms. 2 ft. Lode of great width, the part carried (5 ft. wide) being worth 2 tons per fathom. The stope in this level, north of ladder winze, is worth 1 ton per fathom. The winze in 95 south, to meet the above-named rise, is down 4 fms.; the whole distance or a lode worth 3 1/2 tons per fathom. The 95, south of Morris's winze (holed from 80 to 95 last week) is in a lode worth 3 1/2 tons per fathom. The six stoves in back of this level, 4 north and 2 south of Morris's winze, are together worth 14 tons per fathom. The two stoves north of Robert's winze are worth 3 1/2 tons per fathom. The 80 south of Morris's winze, is in a lode worth about 4 tons per fathom. There are three stoves in back of the 80, south of Jones's winze, worth together 7 tons per fathom. Three stoves north of winze are worth 6 tons per fathom. The stope in same level, south of Evans's winze, is worth 2 tons per fathom. Stope in 80, north of Betton's winze, is worth 2 tons per fathom. Two stoves in same level, north of Glover's winze on east lode, are worth 3 tons per fathom. Stope in back of 50 south, near the shale, is worth 1 1/2 tons per fathom. Our sales to-day have been 250 tons lead ore for 1907. 10s., and 50 tons blonde for 120s. total, 2027. 10s.

RUSSELL UNITED.—John Bray, Aug. 9: The lode in Matthew's engine-shaft is not quite so large and promising as when last reported on, owing to the ground becoming harder, with branches crossing the shaft in a southerly direction; from appearance the change is only temporary. At Stephen's shaft the men are getting on with the new pitwork, and we hope to get the lifts to work in a few days.

SORTHEDGE.—John Axford, Aug. 9: The 40 cross-cut has been quite cleared and secured to the end of the old workings, and we are now driving in firm ground to intersect the great north tin lode; the distance to be driven to accomplish this (if the old working plan be correct) is about 15 fms. The lode in the 50 has been met with, but at the point intersected is small (about 1 ft. in size), I have, therefore, for the present stopped this point of working in order to push on as fast as possible with the 40 cross-cut.

SOUTH DARREN.—Henry James, Aug. 8: The lode in the 120 east is not quite so wide this week, worth at present 1 ton of silver-lead ore per fathom. In the same level west there is no change to remark. The lode in the 120 east has not been taken down close to the forebreast for the week. In the same level west the lode continues to look very well, and is worth 1 1/2 ton silver-lead ore per fathom. The lode in the winze sinking in this level is looking very well; we only break a little in sinking, and as far as seen it is worth 1 1/2 ton silver-lead ore per fathom. There is no other change at any other point to call for remark. All the machinery is in good working order, and we have a fair supply of water for all purposes.

SOUTH DEVON UNITED.—W. Hooper, Aug. 9: In handing you my usual weekly report I am very pleased to say the lode in the 110 end, east of Brook engine-shaft, has again improved in size and value, being fully 5 ft. wide and worth 18s. per fathom. I have not seen it look so well for many fathoms driving.

The appearance of the lode to-day fully justifies all I have said or written about it. There is in connection with its size and composition, in fact, its general appearance and character, such points as lead one to regard it as a lode of exceeding promise. The killas in which the lode is embedded is of the finest possible description for the production of copper in paying quantities, also for the speedy laying open of the lode, it being similar in which all the rich lodes have been found in these mines. There is very little doubt but that as Martin's lode gets down to the 120 and 130 courses of ore will be laid open from the fact of

having driven through a long run of ore ground in the 110, which is all standing in the bottom of the above level, and must be drained by Martin's shaft before it can be taken away, and from the easy nature of the ground a short time will prove this. The stoves in the back of this level are worth—No. 1 7s., No. 27s., and No. 3 4s. per fathom. The lode in the stope in the back of the 110, west of Brook shaft, is 4 ft. wide, worth 8s. per fathom.—Martin's Shaft: The ground still continues very favourable, and good progress is being made. We have reset this shaft to be completed to the 110 at 8s. 14s. per fathom, when it should be continued to the 120 without delay. We shall require for this shaft (in fact, it should be got on with at once) 100 fms. 8 in. main rods to be attached to the present Brook wheel, a balance-bob at surface, and an angle-bob to break the underlier, also many other things for the completion of this work. Timber should be ordered for a double skip-road, and completed without delay. Our present hauling wheel can be made available to haul from this shaft previous to the erection of the 24 in. hauling engine. The lode or part carrying at the 70, west of Old Sump shaft, is of a very promising nature, composed of fluor spar, capel, with stones of mundic and copper ore. For a more speedy development of this part of the company's property I would advise the erection of boring-machinery, when, no doubt, as it is extended west, good discoveries of copper ore will be made. We are still cross-cutting through the lode at the adit level, west of Old Sump shaft; as far as seen it is 5 ft. wide, of a very promising description. We weigh to-morrow the 100 tons of slime ore sold some time since, and on Monday we sample (computed) 290 tons of copper ore of about the same quality as last.

SOUTH PENSTRUTHAL.—Stephen Davey, Aug. 9: We have no change calling for special remark since my report for the general meeting.

TAMAR SILVER-LEAD AND FLUOR-SPAR.—R. Goldsworthy, Aug. 9: The lode in the 57 south is being taken down, and as far as seen is 4 ft. wide, producing rich stones of silver-lead and 2 tons of fluor spar per fathom. In the 27 south we have passed through a slide, which has shifted the lode; we have put the men to cross-cut east, believing it will be found in that direction. In driving north from the cross-cut east, the lode is 2 ft. wide, yielding 10 cts. of silver-lead per fathom, and promising for further improvement. In the 32 cross-cut a branch has been intersected west of the hard floor of capel referred to in my former report, and now purpose to drive a short distance on its course.

TANKERVILLE GREAT CONSOLS.—A. Waters and Son, Aug. 9: Tankerville Mine: Watson's engine-shaft is sunk about 2 fms. below the 232, the north lode, which is in the sump, being quite 5 ft. wide, composed of capel and soft lead ore of a promising character. The 232, going east of shaft on said lode, is yielding good stones of lead ore. This forebreast will get into a good run of tin in 5 to 6 fms. further driving. The stope in back of said level, west of shaft, is worth 20 cts. of lead ore per fathom. No. 2 stope, west of ditto, is worth 25 cts. per fathom. The tribute stope in 220, east of Watson's, is worth 30 cts. per fathom. The 206, east of shaft, is through the twitch; lode worth 2 1/2 to 3 tons per fathom, and improving. In the 2 1/2, east of shaft cross-cut, an old lode is yielding stones of ore. The 182, west of shaft on north lode, is worth 20 cts. per fathom. The 100 cross-cut north, towards north lode, makes good progress.—Tankerville Lode: The 232, east of shaft, is in a lode 4 ft. wide; worth 20 cts. per fathom. We have three pitches by 16 men at tributes varying from 5s. to 6s. per ton; worth together 3 1/2 tons per fathom,—Pennelley Mine: The stope in back of the 120 west, on Warm Water lode, is worth 30 cts. lead ore per fathom. The 120, going east of cross-cut on the said lode, is worth 1/2 ton per fathom. The shaft below 80, on shale bunch, is worth 30 cts. per fathom. The stope west of shaft is worth 2 to 3 tons per fathom. The two stopes below 80, east of the cross-cut, are worth together 2 1/2 tons per fathom. The 80, east of Bland's on Big Ore lode, is on a sparry, ore lode 18 in. wide, of a kindly character. There are three pitches here by seven men at 6s. per ton; worth together about 3 1/2 tons per fathom.—Pottor's Pit: The 120, east of new shaft, is worth 25 cts. per fathom. The winze below 115, east, going down on said level for ventilation, is also worth 25 cts. per fathom. When these points meet we shall resume deepening the mine in the line of the great cavity. We have six men in the upper levels on tribute (6s. per ton); points worth 16 cts. lead ore per fathom.—Bog Mine: Engine and pumping gear doing well. The 185 west is driven 8 fms.; lode about 6 ft. wide, yielding good stones of lead ore, and worth 1 ton of blonde per fathom. We have out more water here to-day. No. 1 sump, in the 175 west, is down 5 fms. 5 ft., yielding some lead ore and blonde stuff. No. 2 sump is 3 fms. 4 ft. deep; worth 30 cts. lead ore per fathom. No. 12 sump is down 6 fms. 5 ft.; worth 2 1/2 tons per fathom. No. 13 sump is 7 fms. deep; worth 2 tons per fathom; No. 14 sump is 7 fms. deep; worth 2 1/2 tons per fathom. No. 15 sump is also 7 fms. deep; worth 2 1/2 tons per fathom. There are eight pitches by 17 men at 8s. per ton for lead, and 30s. per ton for blonde; worth together 2 1/2 tons of lead ore and 5 tons of blonde per fathom. Have delivered 100 tons Pennerley lead ore this week.

TREBARTH LEMARNE.—Wm. Skewis, E. W. Temby, Aug. 9: Kompton's Engine-Shaft is sunk below the brace 12 fms. 5 ft. 8 in., or 9 fms. 2 ft. 8 in. below the deep adit level. The ground is still favourable for sinking, and the lode of a very promising character. In three weeks' time the shaft will be at a sufficient depth to drive east and west in the lode from the shaft. The ground in the cross-cut north, immediately to the west of Rodd's shaft, with a view to intersect the No. 2 lode, is very favourable for driving, and from its appearance the lode, when intersected, should be productive. The lode in the stope in the back of this level, east of said shaft, is turning out well for both arsenic and tin, and, as soon as the winding machine is erected, which will be done with the greatest speed possible, a large quantity of tinstuff will be drawn from this level to supply the stamps, which are now working satisfactorily.

TREGEMBO.—E. Clegwyn, Aug. 8: The ground in the engine-shaft still continues fairly good for sinking, and the men are making progress. In the 16, east of cross-cut, the lode is 2 1/2 ft. wide; worth for tin 15s. per fathom; this end is at present disordered by a patch of killas. In the 16, west of cross-cut, the lode is 2 1/2 ft. wide; worth for tin 12s. per fathom. In the western winze, west of cross-cut to engine-shaft, the lode is 4 1/2 ft. wide; worth for tin and copper ore 20s. per fathom. The lode in Derrick shaft has not been taken down for the last fortnight, and I intend to let it stand until we communicate this shaft to the rise at the back of the 10 fm. level. In Pinnick's shaft, sinking below adit level, the lode is 3 ft. wide; worth for tin 12s. per fathom. In the end adit, driving east of Pinnick's shaft on Tregembo lode, the lode is 2 1/2 ft. wide; worth for tin 10s. per fathom. The calciner is burning well, shall commence to prepare at once our first parcel of tin for the market. The pumping and stamping engines are both working well.

TREVAUNANCE UNITED.—William Vivian, Aug. 9: There is no change to notice in the mine since last week.

WEST GARADON.—N. Richards, Aug. 8: A rise and two stoves in the back of the 38, on Vivian's north lode, will yield together about 2 1/2 tons of copper ore per fathom. Being desirous of testing Gilpin's lode below this level, we have placed the men to sink a little in the bottom of same. The lode at this point has two good walls, and will yield 1 1/2 ton of copper ore per fathom; and, seeing that the lode at this level has been missed for such a number of years, and having such a long run of unworked ground on it, I consider this to be a very important discovery. This lode in the adit level is 3 ft. wide, and will yield from 1/2 to 1 ton of copper ore per fathom. The winze sinking below this level is at present poor. Three stoves in the back of this level are slightly improved, and will now yield in the aggregate about 3 tons of ore per fathom. We find by the dialling that this, or Gilpin's lode, in the mid-way level, driving east of main cross-course, is home within 2 or 3 ft. of the eastern boundary. Consequently, we have not the men to rise, the ground above being in West Garadon, the lode at present yielding 1/2 ton of copper ore per fathom. We are not as yet through the dead chock in the 50 cross-cut south of the main lode; consequently the progress at present is rather slow. No other change to notice adjoining West Garadon.

WEST CREBRO.—John Andrews, Aug. 9: The lode in the engine-shaft sinking below the 62 is 3 1/2 ft. wide, yielding a little good quality copper ore, but not enough to value. In the 62 west we are cutting through the lode, which, sc. far as cut into (3 ft. and no south wall yet), is composed of capel, quartz, mundic, with good stones of copper ore, and looking very promising.

WEST DEVON GREAT CONSOLS.—George Howe, Aug. 8: We have broken some stones of good quality copper ore from the lode in the 26 end to-day, and are looking forward for further improvements in the same direction, which is looking promising. The lode in 50 end, west of the engine-shaft, is of the same kind as appeared as described last week, with very strong arsenical mundic intergrown with copper ore.

WEST GODOLPHIN.—T. Hodge, Francis Hodge, Aug. 8: The 80 south-east, on the caunter, is now suspended for a few days, and the men put to blast

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The Mining Market: Prices of Metals, Ores, &c.

METAL MARKET—LONDON, AUG. 10, 1883.

IRON.	£ s. d.	£ s. d.	TIN.	£ s. d.	£ s. d.
Pig, G.M.B., f.o.b., Clyde...	2 6 11	—	English, ingot, f.o.b...	97 0 0	—
Scotch, all No. 1	2 7 9	2 8 0	“ bars	98 0 0	—
Bars, Welsh, f.o.b., Wales	5 0 0	—	“ refined	99 0 0	—
“ in London	5 15 0	—	Australian	93 5 0	93 10 0
“ Staff., “	7 2 6	—	Banca	—	— nom.
“ in Tyne or Tees	5 15 0	—	Straits	93 5 0	93 10 0
Swedish, London...	9 10 0 10 0	0 0	COPPER.	—	—
Rails, Welsh, at works...	5 5 0	—	Tough cake and ingot.	66 0 0	67 10 0
Sheets, Staff., in London	6 5 0 8 10 0	—	Best selected	69 0 0	73 0 0
Plates, ship, in London	8 10 0 8 15 0	—	Sheets and sheathing.	73 0 0	75 0 0
Hoops, Staff., “	7 0 0 7 5 0	—	Flat Bottoms	76 0 0	78 0 0
Nail rods, Staff., in Lon.	7 0 0 7 5 0	—	Walleroo	68 10 0	69 0 0
STEEL.	—	—	Burma, or P.C.C.	58 0 0	68 10 0
English spring	12 0 18 0	0 0	Other brands... nom.	65 10 0	68 10 0
“ cast	30 0 45 0	0 0	Chili bars, g.o.b...	63 7 6	63 10 0
Swedish, keg	15 0 0	—	QUICKSILVER.	—	—
“ bag, ham...	15 10 0	—	Flasks, 75 lbs., war...	5 12 6	—
Rails at works...	4 10 0 4 15 0	—	PHOSPHOR BRONZE.	—	—
“ Light, at works...	6 5 0	—	Alloys I., II., III., and IV. ... £122 0 0	—	—
LEAD.	—	—	VI. and VII. ... 138 0 0	—	—
English, pig, common...	12 12 6	—	“ XI. sp. bearing metal 114 0 0	—	—
“ L.B.	12 15 0	—	BRASS.	—	—
“ W.B.	13 0 0	—	Wire	7 1/2 d.	—
“ sheet and bar...	13 10 0	—	Tubes	9 1/2	—
“ pipe	13 15 0	—	Sheets	7 1/2	—
“ red...	15 10 0 15 0	0 0	Tin, met. sheath. & sheets	5 1/2	—
“ white	18 10 0 20 0	0 0	TIN-PLATES.*	per box.	—
“ patent shot	15 10 0	—	Charcoal, 1st quality	1 1 0 1	2 0
Spanish	12 7 6	—	2nd quality	0 19 6 1	0 0
NICKEL.	—	—	“ 2nd quality	0 16 6 0	17 6
Metal per cwt.	—	—	Black, per ton	15 10 0	—
Ore 10 percent. per ton.	—	—	Canada, Staff., or Gla...	12 0 0	—
SPELTER.	—	—	“ Liverpo...	Black Taggers, 450 of	30 0 0
Silesian, ordinary brands	15 0 0 15 5	5 0	14 x 10	—	—
“ special brands	15 0 5 0	7 6	At the works, 1s. to 1s. 6d. per box less for ordinary; 1s. per ton less for Canada; IX 6s. per box more than 10 quoted above, and add 6s. for each X. Terne-plates 2s. per box below tin-plates of similar brands.	—	—

REMARKS.—Our market was closed from last Friday night to the following Tuesday morning, so that this has been a rather broken week, and business, in consequence, has been, more or less, interfered with. Upon the resumption of business, however, on Tuesday, no features presented themselves whereby the trade might be improved; but, on the contrary, there was a manifest dullness, and nothing to break the previous monotony. In fact, holders appeared to be wearied of the long delay in any improvement, and thought it more advisable to rid themselves of their stock. This idea, to some extent, was carried out in practice, and hence prices displayed an easier tendency, and concessions were made; but without stimulating the demand. The characteristics of the market at the present time seem rather to justify the action pursued by holders, and more particularly in those metals where prices have long been bolstered up in the vainly-cherished hope that some fresh feature would soon arise to bring about such a restoration in the demand as to dimish present heavy stocks. It matters not how we look at the markets, all sides appear exceedingly gloomy, some more so than others, it being only a question of degree as to which is worse than the other; the prospects are dimmed, the horizon is clouded, and all hopes of a coming resuscitation appear to be based upon a feeble and most unsubstantial foundation. The harvest prospects are marred by the constant inclemency in the weather, so that those who were looking forward to a revival from this cause can no longer place that confidence in its beneficial influences, which they once expected. Deliveries in many metals continue good, and tend to show a constant growth in trade; but supplies exceed them, and stocks are augmented, causing great anxiety to many holders. Shipping orders are not very plentiful, and advices from abroad do not favour the expectation of a shortly increased business with our colonies. In the far future, when those colonies become more opened up, there may be, and probably will be, increased trade with this country; but for the time being there is little chance of recovery, apparently either in the trade out there or at home. With such advices as these before them it is not surprising that holders should begin to realise.

It often requires considerable temporary sacrifice to bring the markets back again to their ordinary state, and, as the great evil in the trade now appears to be excess in supplies over requirements, the only remedy, although one very much against sellers, seems to be to reduce prices to such figures as will check supplies coming forward in their present heavy quantities. It is pretty evident that current rates leave some profitable return to suppliers, otherwise they would scarcely continue to effect supplies upon the present large scale. While reduced rates would tend to lessen the supplies, they would also materially help to stimulate the demand, and hence the two influences, working together, would soon bear an important influence of a favourable nature upon the markets. However, just now, there does not appear much prospect of an immediate curtailment in the production, and the great fear which exists, and which holders, in many instances, evidently realise is, that suppliers will continue to send forward supplies in large quantities, and which may tend to keep prices down for a very long while. While all our markets opened with a dull tone, some have, later on in the week, shown slight symptoms of recovery, at the same time the improvement has not been very marked—a mere market fluctuation, and one to which no importance can be attached. Any stringency in the money market might have a very critical influence upon our markets at the present time.

COPPER.—This market has continued dull, and prices have not undergone much alteration. On Tuesday there was a slight fall upon the price being quoted at the close of last week, which was followed by some recovery, but afterwards the market again became easy. Holders are certainly to be congratulated upon maintaining their market for so long a time; they have had to contend against all manner of adverse features. There has been at times a marked scarcity of legitimate demand, an absence of speculative enquiry; there have been supplies in excess of the wants of the trade; heavy charters to damp the tone, and increased stocks to depress the feeling, and yet, notwithstanding all this, holders have invariably succeeded in supporting the market, with but few adverse fluctuations they have been able to effectually bolster prices in spite of so many events being against them. First one adverse feature has arisen, and has not passed by until another has cropped up of a more or less weighty influence. Holders have held to their own for long; but, unfortunately for them, the prospects do not brighten as time progresses; but, on the contrary, they seem to become rather worse. Previously these adverse features, to which we have made reference, have been influencing the market, if not separately, yet only one or two at a time; but now they come in combination, in full force, against a weak market, and it is evident that holders will have to make a considerable strain to maintain prices in the same able manner as they have heretofore done. It is in the price of Chili bars that any alteration is most probable, although other descriptions will also be influenced. It cannot be urged that the statistics issued for last month were exceptional, and, therefore, some allowance should be made for the excess in stocks, because if we look at the figures for the last 12 months it is seen that the total Chili charters were 43,200 tons, against 41,850 tons during the previous 12 months. The total supplies for the same periods were 89,746 tons, against 81,446 tons, and the total deliveries 88,739 tons, against 91,677 tons. The figures are all adverse, and, further, the total visible stock is fully 1000 tons more than what it was a year ago, so that, comparatively speaking, the market is in a very unsatisfactory position.

IRON.—Business is not very large, and manufacturers in all the

manufacturing centres seem to be rather badly off for orders, and consequently they are rather easy in their quotations; but the trade has assumed such a state of lethargy that low prices seem almost to fail in producing any restoration in the demand or causing any encouragement or temptation to buyers to make purchases. General merchant iron is very slack, except, perhaps, in the case of sheets, which for consumption appear to be in very fair demand, and which has caused a fair amount of strength in prices for that particular description of iron. The price of Swedish iron continues firm; but the demand for Indian assortments is not so large as could be desired, and buyers' and sellers' idea of prices are by no means upon a par. In pigs there is very little change to report; but it is satisfactory to find from the Glasgow report which we give this week that the shipments continue good, and the comparisons for the three last years show a continued increase in the total exports, signifying that the requirements of the trade are growing. This is a good feature and helps to give steadiness to the market, and another point of favourable nature is that activity is reported to reign in almost every branch of the Scotch trade. But, at the same time, notwithstanding this favourable feature, prices do not improve, either for warrants or makers' iron, because the market is not sufficiently attractive to speculators, and production is so fully maintained that operators are shy to use their influence in pushing up prices, because they really argue that if supplies are fully sustained at current rates, they would doubtless be proportionally increased if prices were advanced. This has proved so often the case upon previous occasions that now there is an almost entire absence of any speculative influence in the market, and prices consequently remain steady. The Glasgow Warrant Market was closed last Monday, owing to the Bank Holiday, and on Tuesday there was a good business done, chiefly at 47s. 3d. to 47s. 6d. cash; but afterwards the price gave way, and closed at 47s. 3d. On Wednesday the market was dull, with a moderate business at 47s. 3d. to 47s. 2d. cash; and the same characteristics were visible in the market yesterday, and prices were easier, business being done between 47s. 1 1/2d. and 47s. and the closing quotation this afternoon is 46s. 11d. The shipments last week were 13,722 tons, against 13,579 tons for the same week of last year, being an increase of 143 tons, and which makes the total shipments for the whole of this year 381,203 tons, against 379,090 tons for the same time of last year, and 335,986 tons for the similar period of 1881. The number of furnaces in blast continue at 115, and the public stock has only been increased by 54 tons, and now amounts to 584,492 tons, against 584,438 tons last week. The imports of Middlesbrough pig-iron from Grangemouth last week were 4630 tons, against 3825 tons for the corresponding week of last year, being an increase of 805 tons, and which makes the total increase for the whole of this year, compared with last, 27,259 tons. The holidays at the commencement of the week have rather tended to restrict business on the Cleveland market, although the inactivity is at the same time also due to other causes; for instance, there is inanimation upon the Scotch market to produce a depressing influence, and the deliveries are also said to be somewhat below the recent average. The total reduction in stocks last month is estimated at 4800 tons; but this quantity being less than what was generally expected, it has also helped to dullen the tone. With regard to prices there is not much change; sellers are indisposed to make material concessions, and are tolerably firm at 39s. from second hands for No. 3, and makers quote 39s. 3d. to 39s. 6d. There is next to nothing doing in warrants, which are nominally quoted at 39s., while Messrs. Connal and Co.'s stock shows no change for the week. Although many of the mills and forges are turning out large quantities of iron, yet in prices there is scarcely so much firmness for some descriptions; but there is no quotable alteration, common bars being quoted at 51. 15., angles at 51. 12s. 6d. plate-bars at 61., and puddled bars at 12s. 6d. per ton.

LEAD.—Leads are dull, and scarcely any business doing; quotations are quite nominal. Vans are quoted 5 to 5 1/2; Great Laxey, 15 1/2 to 16 1/2; Roman Gravels, 7 to 7 1/2; Tankerville, 5 1/2 to 6; Leadhills, 2 to 2 1/2; D'Esresy Mountain, 4 to 4 1/2; Great Holway, 5 to 5 1/2; Holway Consols, 1 to 1 1/2; Coed-y-Fedw, 1 1/2 to 2 1/2; Sinclair, 24s. to 26s.; Gwern-y-Mynydd, 2 to 2 1/2; Weardale, 1 1/2 to 2 1/2; East Rose, 11s. 3d. to 13s. 9d. Herdofstoot, 4 to 4 1/2; at the meeting a call of 3s. per share was made. South Darren, 3 to 4; the 120 west is worth 1 1/2 tons of silver-lead ore per fathom. The winze below this level is worth 1 1/2 tons per fathom. Great West Chiverton has been specially inspected this week, and the prospects described are of the most favourable character, being in one of the West Chiverton lodges. The amount paid on the shares is 6s. 6d., and it is difficult to get a quotation as they are rarely dealt in, and are said to be held by very few shareholders.

FOREIGN MINES.—Alamillos, 1 1/2 to 2; Almada and Trito, 7 1/2 to 9 1/2; Anglo-African Diamond, 2 to 3; Australian, 2 1/2 to 3; Birds-eye, 1 1/2 to 1 1/2; Bratsberg, 2 1/2 to 2 1/2; the Mary Owen has arrived at Swansea with about 250 tons of ore. The Samuel Holland will sail from Norway with another cargo next week. Callao Bis, 2 to 3; Cape Copper, 47 to 50; Chile Gold, 2 to 3; the remittance for June is 3400 ozs. of gold from about 2000 tons of quartz, being 25 days' work with 40 stamps. This compares with remittance for the corresponding month of last year of 1832 ozs. of gold from 1022 tons of quartz, being 23 days work with 30 stamps. Chontales, 2 to 3; Colombian, 6s. to 8s.; Colorado United, 1 1/2 to 2 1/2; Copaipe, 3 1/2 to 3 1/2; Devala Moyar, 1 to 1 1/2; Eberhardt, 2 to 3; Fortuna, 3 to 3 1/2; Frontino and Bolivia, 1 1/2 to 2 1/2; General Mining, 5 1/2 to 6 1/2; Hoover Hill, 2 to 3; Indian Consolidated, 1-16th to 3-16ths; Indian Glenrock, 1-16th to 3-16ths; Indian Phoenix, 1-16th to 3-16ths; Indian Trevelyan, 1-16th to 3-16ths; Kapanga, 1 to 1 1/2; Linares, 3 1/2 to 3 1/2; Marbella, 2 1/2 to 3; Mason and Barry, to bearer, 14 1/2 to 14 1/2, and much business doing; Michipicoten, 1 to 1 1/2; New Emma, 1 to 2; Nouveau Monde, 2 to 3; Organos Gold, 1 to 1 1/2; Panucillo, 6 1/2 to 6 1/2; constant efforts are made to depress these shares, but the regular payment of handsome dividends seriously interferes with the operators' efforts. At their meeting this week the directors resolved, at the request of several leading shareholders, to pay dividends quarterly in future. A dividend of 3s. per share, free of income tax, being at the rate of 15 per centum per annum for the quarter ended March 31, will forthwith be paid to shareholders now on the register. The board has also resolved to call in for payment a further sum of 50000 of debentures, making, with 50000 paid off in May last, a total redemption of 100000 for the year, and reducing the company's debentures to 25,000.

Potosi.—According to advices from Wolverhampton the recent strike seems to have been quite brought to a close, and the works around West Bromwich and Smethwick have now generally resumed work. The enquiry for sheets is barely as good as it was a short time back, but makers have made some good forward contracts and prices are consequently firm. Sheets are quoted at 8s. for singles, doubles, 10s. more, and latheans at 9s. 10s. while thin tank plates may be had from 7s. 15s. to 8s. There is but a small demand for pigs at 51s. 6d. for all mines, and 40s. for cinder pigs. The Birmingham market is likewise more cheerful from the same cause as had influenced the Wolverhampton trade, and at a meeting which was held yesterday afternoon of the Employers' Association it was decided that the present sliding scale should continue to regulate wages until a new basis had been formed, and that all disputes were to be submitted to arbitration. There is a better demand for pigs, and also for manufactured, while prices all round are reported steady.

TIN.—For the greater part of the past week this market has been rather neglected, and the little extra speculative feeling which characterised the market at the close of last week not being continued; prices at the opening on Tuesday last were easier, and on the following day fell considerably, but afterwards became steadier, and have since remained without great change, although the tendency has been weak. It will be remembered at times last week that prices for both cash and forward parcels were about on a par. This was a thing which could not last long; the market was wavering and undecided, and it was evident that some change either for better or worse must soon be effected. It is not difficult to assign a reason for the undecided course prices assumed; there had been an exceedingly good legitimate demand, but supplies had been also heavy, and these contrary influences at work naturally made the market uncertain; but as we ventured to predict, with supplies in excess of requirements, though the excess were but small, prices must ultimately be reduced, and the course of the market this week has proved the correctness of our opinion.

The fall which was expected on Wednesday was just 1s. per ton; but much as speculators favour this market, the fall did not

the 203 shares have been accorded full legal rights at regularly constituted meetings of adventurers, so that any attempt to repudiate them now would be suicidal on the part of the adventurers, as it would inevitably plunge Dolcoath into endless litigation, and probably, as in the case of the South Frances and West Bassett litigation, reduce the concern from the prosperous dividend-paying condition to poverty and ruin. It is estimated that original holders will sacrifice considerably less than 5 per cent. of their interest if the fraudulently created shares be recognised, and that even this small sacrifice is only apparent, and would really amount to no loss at all.

The Cauca (Colombia Rivers) Gold Dredging Company, with a capital of 100,000*l.*, in shares of 1*l.* each—of which 20 are B shares, each of which entitled the holder to 1 per cent. of the net profits of the company—has been formed to purchase (for the 20 B shares and 20,000 ordinary shares) and work certain concessions for 20 years from the State of Cauca, United States of Colombia, South America, granting the exclusive right to extract the gold and platinum found in the beds of the Rivers San Juan, Sipi, and Tama, within certain portions of the Department of El Ochoa, in the said State of Cauca. The prospectus states that all that is required for the commencement of operations is to send out a suitable steamer in sections fitted with a dredge fully equipped. All arrangements are being most carefully considered by the directors, so that from the time of giving the orders until the steamer is out and the dredger actually at work not more than a period of four to five months should be consumed. The dredging and washing of the precious metals are done with ease, simplicity, economy, and speed, no extensive or complicated crushing and milling machinery being required. The wealth of ages has been naturally accumulated, and is only waiting to be gathered from these river beds. One of the dredging machines which it is proposed to send out is capable of raising 400 to 500 tons of gravel per day. In the 135 miles of the rivers in these concessions there is room for the employment of large numbers of similar dredgers for a far longer period than the 20 years of these concessions, the gold-laden deposits being practically inexhaustible. Mr. R. B. White states that when all the preliminary investigations and preparations have been satisfactorily concluded, a steam dredge may be set to work capable of raising and treating 400 tons of gravel per diem. Twenty-five working days per month would give 10,600 tons of gravel raised. Calculating at the rate of $\frac{1}{4}$ oz. per ton extracted on 10,600 tons, there would be 5000 ozs. of gold, worth 3*l.* 15*s.* per ounce, or a monthly yield of 18,750*l.* From which must be deducted the estimated working expenses per month of 1000*l.*; leaving a net monthly profit on the workings of 17,750*l.* or a yearly profit from one machine alone of 213,000*l.* Careful estimates have assured the directors that the entire cost of placing the steamer and first dredger on the spot and commencing operations will not exceed 15,000*l.*; there will, therefore, be a reserve for the purpose of at any time forwarding further dredging machinery and their equipment.

The South Minnesota Land Company, with a capital of 250,000*l.*, in shares of 10*l.* each, has been formed nominally to take over and resell about 104,415 acres of land in South Minnesota, which were purchased in September, 1882, by a body of English subscribers; and to purchase and resell about 105,000 acres of neighbouring land now owned by the St. Paul and Sioux City Railway Land Company. But it must be understood, that by the terms of the prospectus the vendors' agents, or managers secure to themselves nearly one-half (45 per cent.) of the net profits, if any, to be realised the shareholders in the present concern being promised the remainder (55 per cent.) for the privilege of lending 170,000*l.* at 5 per cent. upon the security of land which at a liberal valuation (20 per cent. being added to the amount paid for it a year ago) is shown in the prospectus to be worth only 117,730*l.* The 104,415 acres were purchased at \$450 per acre, except the town sites, which cost \$15 per acre, but it is considered fair that the remaining land bought at \$450 should be taken over by the company at \$540, being the rate at which the neighbouring land is proposed to be purchased. The town sites in each case are to be taken at cost. For the 104,415 acres the vendors will take fully-paid shares at par to the value of 117,730*l.*, and subscriptions are now sought for 170,000*l.*, so that it would appear that nearly 50,000*l.* of vendors' shares are included in the issue. The proceeds of sale of each lot of land as when sold are, so far as they will go, to be applied as follows: (1) the company is to receive the original cost of the lot, and all outlay for taxes thereon; (2) the company is to receive compound interest at 5 per cent. per annum upon such original cost and outlay; (3) the ultimate net profits are to be divided between the company and Close Brothers and Co., in the proportion of 55 per cent. to the former and 45 per cent. to the latter. The prospectus adds that the object of the company's agents is to raise the capital value of the properties by the introduction of settlers, and the report from Close Brothers and Co. states that land under their charge has, so far, steadily risen in value. The time required for a process of the kind will vary with circumstances, and it will be seen from the report that Close Brothers and Co.'s land has hitherto taken about three years to double in value.

The Anglo-American and Australian Mining, Land, and Finance Agency, with a capital of 100,000*l.*, in shares of 5*l.* each, is in course of formation for the purpose of carrying on the business of mining, land, and finance agents. It will specially undertake the formation and financing of mining and other companies for the production of gold and silver, and the working of other metals; the milling and smelting of ores; as also investment in and development of mining and land properties; the management of and the inspecting and reporting on mines and estates for the owners. The preliminary prospectus states that it is well known that many of the mining companies formed during the past few years have ended in failure, some through bad management and the excessive amount of purchase money paid, but many of them in consequence of the reports, on the faith of which their mining properties were purchased, having proved to be unreliable. With a view to avoid similar disastrous consequences in the future, and to prevent unnecessary losses in mining operations, it will be a special feature of this company's business to examine and report on mining or land properties for intending purchasers, and to advise on the purchase and proper working of their property, and the management and development of same. Arrangements have been made with Mr. Thomas Cornish, whose name is well known to the readers of the *Mining Journal* as a mining engineer of repute and long experience in Australian gold mining, who has also visited Africa and America, and secured the option of some exceedingly valuable gold and silver mining properties in Colorado and other States, which can be taken over if deemed advisable; as also the agencies arranged for by him, and to retain his services as manager of the company for a term of years, the remuneration of such services being contingent upon the profits of the company, and the remuneration of directors proposed to be on a similar basis. It is confidently anticipated that the profits of this company will be something beyond the ordinary calculations of investors, as none but thoroughly practical and experienced engineers and managers will be engaged to examine, report on, or superintend the development of mines; and a system of payment by results on the success of the various properties will be a special feature of the management of this company, and no mining properties or undertakings in connection therewith will receive the consideration of the company unless success is certain, so far as can be ascertained by the most experienced authorities, sound judgment, and economical management. "Thus will be combined the maximum of profits with the minimum of risk or loss" in gold and silver mining.

Devon Great Consols, $\frac{3}{4}$ to $\frac{4}{4}$; the monthly sampling is 875 tons of copper ore. The bottom levels are looking better, and it is thought that by driving the 205 westward towards the great cross-course, which was the means of making such rich deposits of copper ore many years ago, that some important and early discoveries are likely to be met with.

Kit Hill Great Consols, $\frac{1}{2}$ to $\frac{2}{3}$; the lode in the shaft is fully 4 ft. wide, and is of an exceedingly promising character. The great tunnel level has been advanced some 2 fms. 2 ft. during the past week.

South Wheal Frances shares are reported to have been in demand at 9*l.* 10*s.* to 10*l.*, owing no doubt to the more satisfactory statement of accounts presented at the meeting of shareholders on Thursday last.

South Devon United, $\frac{2}{3}$ to $\frac{3}{4}$, and reported in demand. The lode in the 110 fm. level (as will be seen by the report in another column from the agent at the mines) has considerably improved; worth now about 18*l.* per fathom. The two-monthly sampling of copper has been augmented to 290 tons, in addition to which there is about 100 tons of slimes ore. Some important discoveries are expected, and the directors are doing all they can in the general interests of the company, they being amongst the largest shareholders.

Tankerville Great Consols, 4*s.* to 6*s.*; the Watson's engine-shaft is being pushed down with all dispatch, and the lode in the 206 east has considerably improved—now worth about 25*l.* per fathom. The directors are anxious that the shareholders should subscribe forthwith for the remaining Preference Ten per Cent. shares, in order to facilitate "the vigorous operations at all four of the mines belonging to the company."

Rhomboid, $\frac{1}{2}$ to $\frac{2}{3}$; the usual telegram states that the week's run was \$15,000, from 297 tons of ore, with one furnace. During the week the refinery produced doré bars to the value of \$18,000. The superintendent's report on the present condition and extension of the prospecting deadwork, &c., for the week ended July 14 states that the 400 south west drift from cave over No. 5 chamber under 300 level cave has been run 10 ft. in limestone. Have temporarily discontinued prospecting work on 300 level, and propose prospecting by this drift the region to south-west under 300 level cave. The 1050 north-east drift from north-west drift has been extended 8 ft. Total 404 ft. in limestone. The 1050 east drift from north-west drift (No. 1) has been run 20 ft. Total 95 ft. On fissure in limestone.

Ruby and Dunderberg, 1 7-16ths to 1 9-16ths; the weekly report advises good progress in developing the body at the Home Ticket Mine, also in running the tunnel at the Lord Byron Mine. The tributaries at the Dunderberg were doing fairly well; 17 men were working there. The telegram received on Tuesday advises a rather decreased outturn for the week; but the quality of the ore smelted continues good, the 8*s.* tons having realised net \$20*l.* per ton.

Californian Gold, $\frac{1}{2}$ to 1; the report this week states that the directors have been advised by telegram that the accumulation of water in the bottom of the shaft and lower level, in consequence of the breaking of the wire hoisting ropes, necessitated stopping the mill for a few days, which had been running on ore from the upper levels in the interval. The breaking of the old ropes prevented any ore being obtained from the lower workings, whilst, at the same time, the usual amount of water could not be raised. But the directors are now advised that the new ropes have been fixed, and that milling will be resumed on Monday next.

In Lead Mine shares the stagnation reported last week continues, the price of lead still preventing any hope of better prices for lead ore in the immediate future. Roman Gravels, $7\frac{1}{2}$ to $7\frac{3}{4}$; the month's sale of lead and blonde realised over 2000*l.*, and as will be seen by the manager's report in another column, the mines continue to look well in the various important points of development.

The Aruba Phosphate Company of Curacao, West Indies, which is in alliance with the Aruba Island Gold Mining Company (Limited) declared an interim dividend at the rate of 62*l.* per cent. upon the whole of its subscribed capital in May.

The liquidator of the Gawton Mining Company notifies that he has contracted, as liquidator, to sell and transfer the property and business of the old company to the new company, as a going concern, and subject to the payment by the purchaser of all the debts and liabilities for a consideration, payable in 12,000 shares of 2*l.* 10*s.* each (issued as 2*l.* paid), of and in the Gawton Company (Limited). The *pro rata* proportion of the said 12,000 shares, of the nominal value of 2*l.* 10*s.* each, 2*l.* of which is duly credited as paid up, was on Tuesday allotted to the several shareholders; in the event of their not accepting such allotment within 14 days from date the shares will be dealt with by the directors upon such terms as they may deem expedient, in pursuance of the said resolution.

Another large dividend has been declared by a German sugar manufacturing company—the Fallersleben Company. A dividend at the rate of 50 per cent., against 33*l.* per cent. for 1881-2, and 6*l.* per cent. for 1880-1, is announced.

We are asked to state that the share certificates in the reconstructed United Horse Nail and Shoe Company will be ready for exchange on and after Aug. 15.

The General Credit and Discount Company notify that the purchasers of the Railway Asset of the company having paid up the purchase money, the directors will proceed to distribute the amount among the shareholders as soon as the necessary formalities for the transfer have been completed.

The Merchant Banking Company of London notify that an interim dividend at the rate of 8 per cent. per annum, free of income tax, for the half-year ended June 30 has been declared, payable Sept. 1.

GAS SHARES.—The principal business in these shares, according to this evening's report of Messrs. W. L. Webb and Co., of the Stock Exchange and Finch-lane, has been—Bahia (Limited), Ordinary, 21*s.* to 22*s.*; Bombay (Limited), 5*s.* to 5*l.*; Buenos Ayres, New (Limited), 5*s.* to 8*s.*; Commercial Consolidated, 21*s.* to 21*s.*; ditto, New Stock, 16*s.* ditto, 4*s.* per cent. Debenture Stock, 10*s.* to 10*s.*; Continental Union (Limited), Original, 27*s.* to 27*s.*; ditto New, 18*s.* and 18*s.*; ditto, 19*s.* ex div.; ditto New, 8*s.* ex div.; Gas Light and Coke, A, 19*s.* to 19*s.*; ditto H, 7 per cent. Maximum, 14*s.* to 14*s.*; ditto, I, 10 per cent. Pref., 22*s.* ditto H, 6 per cent. Debenture Stock, 14*s.*; Imperial Continental, 20*s.* to 20*s.*; Monte Video Gas (Limited), 15 to 15*s.*; Rio de Janeiro (Limited), 23*s.* to 23*s.*; South Metropolitan, A, 23*s.*; ditto, B, 18*s.* to 21*s.* Gas stocks very firm, and show a considerable rise, especially some stocks upon various rumours of amalgamation, none of which are confirmed. Commercial and Imperial Continental Gas are also firm in sympathy.

INSURANCE SHARES.—Have, according to this evening's report of Messrs. W. L. Webb and Co., of the Stock Exchange and Finch-lane, been dealt in as follows:—City of London Fire, $\frac{1}{2}$; Commercial Union, 18*s.* to 19*s.*; Employers' Liability Assurance Corporation (Limited), 2*s.* to 2*s.*; Fire Insurance Association (Limited), 2*s.*; Law Fire, 16*s.*; London, 55*s.* to 58*s.*; Liverpool Land and Life, Annuity, 23*s.* to 23*s.*; Marine (Limited), 25*s.*; National Marine (Limited), 11*s.* to 2*s.*; North British Mercantile, 25*s.*; Ocean Marine, 6*s.*; Royal Exchange 3*s.*; Union, 55*s.* to 57*s.* Insurance steady, and little doing.

TRAMWAYS.—The closing prices of this evening, as quoted by Mr. W. Abbott, of Tokenhouse-yard, are given in tabular form in the last page of the Journal.

COPPER AND TIN.—Messrs. FRY, JAMES and Co. (Aug. 9) write: Copper is quiet in the absence of all speculation, and the daily business has been below the average. The business which has been doing has been distributed fairly amongst all descriptions. Tin has receded from the advance noticed in our last, having fallen back fully 2*s.* a ton in price of fine foreign, and only a small amount of business is being transacted.

GOLD AND SILVER.—Messrs. Pixley and Abel (Aug. 9), write:—The imports of gold from the Continent have continued during the week, although the total received is not so large as last. There being but little demand the Bank has received nearly the whole of the arrivals, which amount to 267,000*l.* Sovereigns to the value of 125,000*l.* have been withdrawn for Lisbon. The Rome has brought 80,000*l.* from Australia, and the P. and O. steamer has taken 10,000*l.* to India. The market for silver has been very quiet since our last, and without alteration in price. The arrivals have been very small, only 26,520*l.* from New York. The P. and O. steamer has taken 95,000*l.* to Bombay.

PYRITES SMELTING COMPANY.—This company has disposed of its American, Mexican, and Canadian patents to a company formed in Colorado. It is now disposing of its Australian patents to a syndicate. Those interested in the future of gold and silver mining would do well to enquire into the matter as an investment. Within the last few days the proprietors of some extensive mines in Australia have decided to adopt it. Their very refractory ores (for the manipulation of which they have unsuccessfully tried most processes) have been treated by the company's process with great success. The syndicate which is now formed for the Australian patents numbers in it some of the most influential men in the City, and the American, Mexican, and Canadian patents have been taken by some of the leading mining men in the United States.

BRATSBURG COPPER.—The Mary Owens has arrived at Swansea this week with a cargo of about 250 tons of copper ore. She has now discharged, and will return to Norway with all speed to bring another cargo. The Samuel Holland will sail next week from Norway with a cargo of about 250 tons. The ores by the Lilla and Jane Alice have now all been delivered. The mines are looking well, and good progress is being made with the erection of the additional and improved machinery.

COED-Y-FEDW AND PAUT-Y-BUARTH.—The report in regard to this property will be read with pleasure, as they undoubtedly indicate that the mine should be considered a great prize.

NORTE PENSTRUTHAL.—It has always, writes a correspondent, been the opinion that this mine would turn out well in depth, and it is pleasing to see the improvement that has taken place in the past week or two. The evil influence of the elvan on the productivity of the lode is now rapidly giving way, and the two bottom levels west are both reported of value for tin.

SOUTH PENSTRUTHAL.—The ground in the flat-rod shaft is, writes a correspondent, still of the same friable nature, with branches interspersed with copper ore. A great improvement is expected here soon, when the short cross-cut is sent out to cut the lode. This will now soon be made.

FORTESCUE (Stannagwyn).—The claim of Mr. David Gourlay for costs incurred as voluntary liquidator in the winding-up of the concern was brought before the Vice-Warden in the Court of Stannaries on Wednesday. After hearing the arguments on both sides, his Honour thought it was quite clear that Mr. Gourlay acted as liquidator, and had good reason to believe that he was validly appointed, and a circular touching the appointment was sent out by Mr. Thompson and signed by him as managing director. Mr. Gourlay acted as liquidator from May 2, 1881, to Dec. 11, 1882, and he was surely entitled to payment for the services he rendered during that time. Mr. Gourlay's charges for his own expenses seemed to be extremely moderate. Mr. Gourlay was acting as liquidator with the approbation, under the authority, and with the concurrence, of Mr. Thompson. He therefore decided that Mr. Gourlay's claim be admitted, together with the law and other taxed costs incurred, and Mr. Gourlay's cost of that application to come out of the estate.

THOMAS CORNISH, CONSULTING MINING ENGINEER.—Mines inspected and reported on. Advice on Mining Management and Investment. Twenty-five years' practical experience in Australia. Author of "Gold Mining: Its Results and Its Requirements"—"Our Gold Supply: Its Effects on Finance, Trade, Commerce, and Industries"—"A Trip to Colorado," &c. Address, care of MINING JOURNAL OFFICE, 26, Fleet-street, London, E.C.

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REPORT ON MINERAL PROPERTIES AND MINES, ADVISE ON ALL QUESTIONS OF THE WORKING AND MANAGEMENT OF MINES.

JOHN M. STUART,

CONSULTING MINING ENGINEER,

ANALYST AND ASSAYER,

OFFICES:

11, QUEEN VICTORIA STREET, LONDON, E.C.

FREDERIC F. CHISOLM,

CONSULTING MINING ENGINEER & FINANCIAL AGENT,

OFFICE, 66, CHEESEMAN BLOCK, DENVER, COLORADO.

ROYAL MINING ACADEMY AT CLAUSTHAL (PRUSSIA).

72ND SCHOLASTIC YEAR, 1883—1884.

The LECTURES of the WINTER HALF-YEAR will COMMENCE on the 9th of OCTOBER, 1883.

Programmes to be had (gratis) on application to—

THE DIRECTOR,
BERGRATH DR. V. GRODDECK.

NOTICES TO CORRESPONDENTS

NICKEL—“R. J. C.” (New York).—There is a very limited demand for nickel, and if any considerable quantity were sent into the market the price would probably fall 75 per cent. at once. It could not be expected that America would take any extra as there are several discovered deposits on the Pacific Coast now idle, and it is probable that as long it will be sent from the American mines in the form of metal. Some two years since Mr. W. Bell, of Oakland, California, discovered large workable deposits in the Table Mountain and Cottonwood canyon district, and a correspondent of the San Francisco Mining and Scientific Press now states that since that time Mr. Bell has been experimenting upon the feasibility of extracting the metal upon the ground; this he has accomplished by smelting several bars of nickel from the ore as taken from the ledge, and a furnace of peculiar design is now being erected by Smith and Bell, in Sacramento city, in order to thoroughly demonstrate the practicability of erecting a smelter upon the mines, when we hope to again bring the State of Nevada into notice and renew the flush times of the Comstock, as there is no doubt but these nickel mines will open out far beyond all expectations, as large bodies have been exposed which grade from 7 to 30 per cent. Work is being pushed forward as fast as possible, and the company are determined to leave nothing undone to thoroughly develop their property.

FOREIGN REMITTANCES.—Subscribers and advertisers when they remit by Post Office Order from Sweden, Norway, Denmark, Belgium, the Netherlands, Germany, or other countries in which the Post Office authorities undertake the transmission of the order, will oblige by sending Postcard direct to our office, stating that they have remitted, with date and amount. Otherwise the remittance is liable to be wrongly credited, as we are entirely dependent on the courtesy of the English Postmaster-General in ascertaining the name and address of the remitter.

Received.—“J. M.” (Astruther): The letter has been forwarded.—“R.”: Whenever anything reflecting upon the character of another is published over a pseudonym the postmark and date will be given, so that the party attacked may have some indication of the identity of his opponent. It is very easy to attack an objectionable principle without attempting to injure the person who may, perhaps, without evil intention have adopted it.—“K. C. B.” (Manchester): The statement that the aggregate value of the points in operation is so much per fathom is fallacious and intentionally misleading, because the aggregate cost of working the said points is concealed. The fallacy of this kind of valuation is so generally understood and objected to by shareholders that it is now seldom adopted.—“J. R. P.”—“J. T.”—“N. B.” (Brisbane): Thanks. There ought to be no difficulty in obtaining British capital for Queensland mines if they be offered on equitable terms. Heavy purchase prices cannot now be obtained in England.—“G. H. C.”—“H. K.”

THE MINING JOURNAL,
Railway and Commercial Gazette.

LONDON, AUGUST 11, 1883.

RAILWAY AND DOCK DEVELOPMENT IN WALES.

When we consider the vast extent of the South Wales coal field which is yet undeveloped, and the wide-world demand which exists for its almost priceless productions, there is little ground for wonder at the efforts which are being constantly made for greater facilities of transport and shipment. The Royal Commissioners who made their report some 12 or 15 years ago, after the most scientific and pains-taking enquiries, stated that the superficial area of the South Wales coal basin was no less than 906 square miles, the total quantity of coal being stated in round numbers as 36,566,000,000 tons. After making all necessary deductions it was estimated that there was within 4000 ft. of the surface 31,783,000,000 tons of workable coal. Calculating that the present rate of consumption is about 15,000,000 of tons per annum, the coal in the South Wales basin will last considerably over 2000 years, a time sufficiently remote to allow our descendants of those days to turn their attention to other fields or other modes of generating heat. It is necessary to bear these enormous figures in mind to show that however great the development for many years to come, no appreciable deduction can be made in the practically exhaustless resources of the South Wales district.

It would be an oft-repeated story to relate the rapid and enormous growth of the ports of Cardiff, Newport, Swansea, and the other Bristol Channel ports possessing connection with the South Wales coal field. Cardiff is now the third exporting port in the whole of the United Kingdom, exporting more than 5,500,000 tons of coal last year, and will probably export something like 7,000,000 tons this year. This is a larger quantity of coal than shipped in all the other Bristol Channel ports put together, and more than double the quantity exported by Cardiff 12 years ago. The question very naturally here arises—has the dock accommodation and the railway facilities increased proportionately with this enormous expansion of the coal trade? We are bound to say it has not. In round numbers there are about 120 acres of dock accommodation in Cardiff, the Marquis of Bute alone possessing about 80 acres; and the whole of this enormous trade is practically served by one railway—the Taff Vale—which virtually has a monopoly of the coal carrying trade of the district. The consequence of this state of things is that the docks at Cardiff have become congested; frequent delays occur in the transport and shipment of coal, and colliery proprietors, merchants, and shippers have to submit to vexatious delays, and pay very much heavier railway and dock charges than they otherwise would do if more dock accommodation exist, and better railway facilities provided.

It can hardly be denied that such a state of things is most unsatisfactorily regarded either from the colliery owners or the shippers stand point. The colliery proprietor is naturally anxious to still largely develop his property and open fresh pits, but is hampered and restricted, as it would be useless so to do, the dock accommodation not affording adequate facilities for the present trade. Ship-owners decline to send their vessels to Cardiff in the present congested state of the docks, knowing the detentions which take place in getting cargoes, and the heavy expenses incurred. There is thus an almost universal demand for largely increased dock accommodation on the one hand, and a break up of the pernicious monopoly of the Taff Vale Railway Company on the other. And this demand found expression in the scheme which has just been so tenaciously fought before the Parliamentary Committees of both Houses, known as the Barry Dock and Railway Bill. The bill was promoted by landowners, shipowners, colliery proprietors, and the public generally, who subscribed voluntarily no less than 600,000/- towards the Barry Dock scheme, and would doubtless provide double that amount if required. The promoters also undertook to ship in the new docks a larger quantity of coal than at present shipped in the whole of the present docks in Cardiff provided their scheme in its entirety was carried out. These two facts alone show the opinion of those most interested in the trade, and one would have thought sufficient to prove the necessity for the new dock and railway. The scheme provided for the construction of extensive docks at the Island of Barry, some 6 miles from Cardiff, and connected with the Taff Vale Railway at Penarth and Treforest with a line up the Rhondda Valley. This scheme was of course opposed tooth and nail at every stage by the Marquis of Bute and the Taff Vale Railway Company. Both parties had almost any amount of financial resources at their back, and being determined to maintain monopolies which they have enjoyed for so many years, and from which they derived such immense incomes, they fought tenaciously, if not desperately, to preserve their

vested interests. The Marquis showed that he was constructing more docks in Cardiff, and that other docks were being pushed forward by others, which would give accommodation for a great accession of the coal trade; and the Taff Vale Company attempted to show that with the alterations and additions they were making the railway facilities would be equal to all demands. The Committee of the House of Commons declined to be guided by these assertions, feeling that the main principle of the proposed bill was the break-up of the present monopoly, and consequent reduction of the railway and shipping charges, and they unanimously declared the preamble of the bill proved. The Committee of the House of Lords, however, rejected the bill, or rather they declined to sanction the making of the railway as asked for, and it is obvious that without railway accommodation the new docks would be worse than useless. This was a severe blow for the shippers of Cardiff and the colliery proprietors of the Rhondda Valley, but we can hardly expect that they will rest satisfied with such a decision, but will fight until they have secured their object, costly as the battle has been in the past and will be in the future.

The shippers and colliery proprietors of the western end of the South Wales coal field have also fought a most costly battle before both Parliamentary Committees during the present session, but fortunately they have been more successful. The Swansea Bay and Rhondda Valley Bill, which seeks to give direct and unbroken access between the Rhondda and Avon coal districts and the port of Swansea, was thrown out last year on account of the opposition of the Neath Harbour Commissioners and the Neath Corporation to the crossing of their river by a bridge. Nothing daunted, however, the promoters this year again applied for powers, substituting a tunnel for the bridge. True to their instincts the Taff Vale also opposed this scheme as “poaching upon their preserves,” of which they supposed themselves to have a monopoly. The bill was also determinedly opposed by the Great Western Railway Company and the Neath authorities. The promoters have, however, triumphantly carried their bill before both committees. They had an unanswerable claim. The Harbour Trustees of Swansea have just opened deep water docks, constructed expressly for large heavy tonnage ocean-going steamers, and these docks would be comparatively useless without direct and independent communication with the Rhondda valley. The colliery proprietors of the Rhondda and the Avon districts have long yearned for direct access with the port of Swansea, so as to divide the traffic east and west. The owners of the important steel, iron, tin-plate, and other manufacturers of the Swansea district proved that the steam coal of the Rhondda was invaluable for their works, and that they could consume many thousands of tons annually if cheap supplies could be obtained. The Great Western Railway who opposed the bill had two schemes before the committee for improving the access with Swansea, and the Taff Vale resented any interference with the Rhondda. The bill was carried in the Commons Committee after several days hard and costly fighting, but the opponents continued their warfare before the Committee of the Lords, again entailing enormous costs upon all parties. The committee, however, declared the preamble proved, a decision which was received with much satisfaction and general rejoicing on the part of the public. Both the Great Western bills were subsequently thrown out, and the Rhondda and Swansea promoters left masters of the field. The new line will now be vigorously pushed forward, and doubtless part of it will be in operation early next summer. It will unquestionably break the monopoly which the Taff Vale has hitherto had of the Rhondda valley, and will divide the spoil with that company. Doubtless too many of the colliery proprietors who have found their hopes and prospects frustrated in reference to the Barry Dock scheme will now transfer their support to the Rhondda and Swansea Bay scheme. When the connection with Swansea and the Rhondda is in full operation the shipments of Swansea will increase as rapidly as those at Cardiff have hitherto done, and the necessity of new docks at Barry will not be so imperatively demanded. The coal field, however, of the Rhondda and Avon districts is of such vast extent and so rich in deposits that it has abundant supplies for all comers, and the greater railway and dock facilities the better for all classes interested.

THE ROYAL COMMISSION ON ACCIDENTS IN MINES.

The Commissioners have been busy at Woolwich with experiments as regards lights, and the report, not yet being ready, we are favoured with a summary established by the evidence given on the various questions raised. From the summary itself the report is not likely to be a valuable one, though the Commission has been occupied about four and a-half years in going from place to place, examining witnesses, visiting the underground workings of mines, and taking part in experiments. The summary, in fact, merely reiterates opinions that have often appeared in print, more especially in the *Mining Journal*, and our views, although by no means new, have been endorsed by the summaries so far issued by the Royal Commission. The propping of the roof of mines, it is said, is apt to be delayed too long, or to be done imperfectly, unless it be made the work of specially selected men. To ensure the safety of the men, we have urged the necessity for men being specially appointed to superintend the timbering as in the “deputy system” of the North of England. Opinions, the Commissioners state, are unanimously in favour of improving ventilation by splitting the air and shortening the travelling roads. This has never been disputed, for by judicious splitting almost any quantity of air can be sent through a mine. It is the same as having a number of pipes to take water from one reservoir to another in lieu of one. At the Hetton Colliery, such was the skilful management of these splits that by means of natural temperature alone on a winter's day it was found that as much air went through the workings (100,000 cubic feet per minute) as could be obtained at some other large mines by the use of immense furnaces or fans. By having a separate split to ventilate each range of workings, the air is brought much cooler and purer to the miners, and is an admitted improvement in connection with the ventilation of mines.

In coal mines there is no question of more importance than that of the comparative safety of the different methods of working, and the Commissioners state that in Scotland the longwall system is considered only suitable for seams under 5 ft., which is at variance with English and Welsh examples. The longwall system is now that most generally adopted, even with seams up to 10 or 12 ft., as it is then unnecessary to leave pillars of coal standing, and a larger output per acre results. In the Great Midland coal field the longwall predominates. In getting coal by machinery it is also the only system that can be favourably adopted. From experiments carried on for some three or four years by means of hoisting with a machine the amount of slack produced in a 7 ft. seam was less than 8 per cent., and where the hoisting was done in 3 in. of dirt 95 per cent. of the coal was obtained. Where there is a strong roof all the coal can be taken as the men proceed. At the same time the system that will work well at one mine may not do so at another, as much depends upon the state of the roof, &c. Safety and economy are the great desiderata in working mines, and as a universal system is out of the question, it is only by experience that the most suitable can be determined.

Explosions of gas in mines, as might be expected, is specially noticed by the Commissioners, but there is no suggestion made as to how they can be prevented. Blasting is known to be most dangerous, and has doubtless been the cause of many fatal explosions, and at one place it is stated upwards of 600 shots are fired daily. Of course, blasting in some mines is always attended with danger, and as the Commissioners state that in some mines powder may be safely employed, so that general prohibition would not be justified. Sudden outbursts of gas are also noticed, but not much is said with respect to them, excepting that danger from them can be best averted by the drilling of holes, so as to allow the gas to escape. This has been carried out for several years in South Yorkshire, where such outbursts have been most prevalent, and where their probable origin has received a great deal of attention from the mining engineers of the district.

From the above facts it will be seen that the Royal Commission, from whose efforts such great things were anticipated as regards the minimising the loss of life from accidents in mines, and showing how many of the latter could be prevented, have been principally engaged in taking evidence, so that the report, whenever it is issued, is not likely to add much to our scientific knowledge in connection with mining operations. Neither can we expect that it will bring forward any data on which legislation can be founded for the purpose of lessening the fatalities which take place in mines, although the great majority of them are preventable. We are certainly promised an elaborate treatise on the value of the various safety-lamps now in use; but those who expect to find anything new and really important in the report of the Commission in connection with mining we believe will be greatly disappointed.

GOVERNMENT MINE INSPECTION IN CORNWALL.

In the general remarks in his report for last year Mr. R. J. Frecheville, H.M. Inspector under the Metalliferous Mines Regulation Act, states that at the commencement of the year 1882 the price of black tin was 65/-, and at the close 51/- 15s. per ton, the average for the year being 59/- per ton, at which price he regrets to say there are but few tin mines in Cornwall which can be worked at a profit. The list of mines in his district is a long one, but many are worked on the most limited scale, and produce little, if any, mineral. East Wheal Crebor and West Chiverton Mine have been abandoned during the year, and have complied with section 14 of the Act by sending plans and sections of their underground workings. Mr. William Teague, jun., of Carn Brea and Tincroft Mines, has greatly improved his ventilating apparatus referred to in his previous report. As a means of clearing the ends and levels from noxious fumes and smoke, in mines where boring machinery is employed, and a large quantity of explosive necessarily used, it is invaluable, both as regards the health of the workmen, and also economy in the use of that excessively expensive power, compressed air.

During the year 1882 there were 28 mines in the district using boring machinery, and 57 machines constantly at work—15 Eclipse, 11 Champion, 11 Darlington, nine Barrow, five MacKean, three Cornish, one Ingersoll, one Schram, and one Normandy Stillwell drills; from which it appears that the advantages obtainable from the employment of machine drills over that of hand labour in opening out mines are now fully recognised. This is more specially marked in those mines where the ground is unusually hard. These machines have so far been employed in driving levels and putting up rises, as up to the present time in this district they have not been successfully used in either stoning or sinking.

With reference to the relative danger of ascending and descending mines by ladders and the single-rod man-engines in use in his district, he finds that during the 10 years 1873—1882 the totals of the numbers of men that have used ladders amount to 94,929, and those that have used man-engines to 19,651. With the former there have been 18 fatal accidents, and with the latter only 3; consequently the death-rate per 1000 for the 10 years is with ladders 189, and with man-engines 152. Further, taking into consideration the fact that the mines where man-engines are used are much deeper than those served by ladders, so that the distance actually travelled by the men in going to and coming from their work is much greater in the former class of mines, it will be seen that these statistics prove single-rod man-engines to be considerably safer than ladders. In Germany, where double-rod man-engines are generally used, the reverse is the case.

The time that cages or, as they are locally termed, gigs have been used in the district is as yet too short to institute a fair comparison between them and the other modes of ascent and descent; however, there can be no doubt that in suitable shafts, provided with properly arranged winding gear, and in well-conducted mines, cage riding is very safe. Not only is the work of climbing ladders in deep mines most injurious to the health of the men, and very false economy on the part of the adventurers, but it also indirectly tends to swell the number of fatal accidents, as the miners when exhausted by their work, and having the prospect of a long and arduous climb before them, will occasionally yield to the temptation of riding to surface in the skips used for drawing mineral, in spite of all regulations and efforts on the part of the mine agents to prevent the practice. This is a fruitful source of accident in his district, having occasioned the death of no less than 11 persons out of a total of 334 killed by accident during the 10 years 1873—1882.

The system of communicating signals from underground to surface employed in the mines of his district is very defective. A great improvement could be made by the introduction of electric signalling apparatus, such as that exhibited by Messrs. Walker and Oliver, of Nottingham, at the annual exhibition of the Mining Institute of Cornwall, held at Camborne in December. During the year in his district the conditions of the Acts have been fairly well complied with, and the managers of the different mines have very willingly rendered him every assistance in the performance of his official duties. During the past year he has made 218 visits to mines, of which a large proportion included underground as well as surface inspection.

GOVERNMENT INSPECTION OF COLLIERIES—MAGISTERIAL DECISIONS.

It is so generally acknowledged that the operation of the several Mines Regulation Acts has been highly beneficial to the working miners in rendering the pits so much safer that a vastly increased output of coal has been possible without any augmentation in the number of deaths per annum from accidents that it is essential the Inspectors should have all necessary legal assistance in the shape of decisions, the impartiality of which is beyond the smallest taint of suspicion. That it was considered, when the enactment of the measure was under discussion in Parliament, the Inspectors would have more than ordinary difficulty in securing unbiased decisions in cases arising under the Act is evident from the wording of the 67th section, which provides that “a person who is the owner, agent, or manager of any mine to which this Act applies, or the father, son, or brother of such owner, agent, or manager shall not act as a court or member of a court of summary jurisdiction in respect of any offence under this Act,” and there have been since many proofs that it would have been far preferable had the provision been that no cases under the Act should be heard except by a stipendiary magistrate or paid judge. That those on the Commission of the Peace are all honourable gentlemen anxious to do justice to all who come before them is freely admitted; but from the dry legal point of view they are the mereest noddles, the majority of them being from their absolute ignorance of technical law necessarily dependent on the magistrate's clerk to make their amateurish judgements passable. To say this is no reflection upon Justices of the Peace, since these cannot reasonably be expected to satisfactorily perform the duties of one of the learned professions without any education whatever to fit them for it—and it is probable that, except in such matters as parish squabbles, affiliation cases, drunken disturbances, and the like, none would be so glad as the justices themselves to have the responsibility placed in more competent hands.

Some little feeling has been created in the Whitehaven district by the reference which Mr. Willis, H.M. Inspector for the district, made in his annual official report, just published, to the decision given in

August last, at the Whitehaven Police-court, when the charge of negligence preferred against the agent and manager of the William Pit, Whitehaven Collieries, was dismissed. Whilst under an ingeniously devised cross-examination a competent and truthful witness once said to the judge who was hearing the case—"My lord, My answers, Yes or No, to the questions put are truthful, each by itself; but without explanation each is a gross falsehood, or only partially true." It is so with almost every cross-examination—the questions are put not with a view to elicit the truth, but to obtain admissions which can be used to pervert the truth in summarising the evidence. This is well understood by the regular judges, but is usually too much for the amateur justices on the Commission of the Peace, and hence the ludicrous decisions of these worthies, so frequently complained of. Briefly stated it appears, to judge from the evidence alone, and without any knowledge of the pit or the parties to the dispute, that a slope had become choked by a fall, and the ventilation deranged, that due diligence was not used in clearing the slope, reliance being placed instead upon brattice; that fear of further falls rendered it difficult to clear from the bottom of the slope, and presence of gas was an obstacle to clearing from the top. The cross-examination of the witnesses for the prosecution did not suggest that the difficulties were insuperable, or that any attempt had been made to remedy the evil and failed, but was directed to show that neither the Inspector nor sub-Inspector had suggested any method of dealing with the matter.

Now it cannot be too widely understood that not only is it no part of the Government Inspectors' duty to direct what shall be done, but that it would be culpable on his part to do so, since it would be removing the responsibility from and interfering with the control of those entrusted with the management of the pit. Mr. Willis is charged with freely admitting when under cross-examination "that under the circumstances of the last fall, what he would have done would have been to have tried to clear it away; but until that had been done he could not suggest any other system of ventilation than that which had been adopted"—and, further, "that he would have prosecuted whether the Home Office decided to do so or not;" but it is so obvious that the first statement simply means that the obstruction should have been cleared at once, and the second that he considered the neglect culpable—the law does not permit him to prosecute until he has the sanction of the Home Secretary—that it would have been unnecessary to even refer to them had it not happened that they seem to have influenced the magistrates' clerk in suggesting the decision to be given.

To the practical reader it will be difficult to see anything weak in the evidence, whether in chief or as elicited in cross examination, of either Mr. Willis or his Assistant; but the case affords another instance of the necessity for limiting the hearing of colliery cases to stipendiaries, as such disputes are annoying to the magistrates, and calculated to encourage infraction of the law. This is evidently the opinion of Mr. Willis, for he remarks—"Perhaps a dismissal of a case is to be preferred to a conviction with 6d. penalty, which was my experience some years ago in a case of non-fencing, where no practical man, I venture to say, would have said otherwise than that if the Act had been fulfilled a fatal accident, which had taken place, could not have occurred. This was not before the same Bench; but the same magistrates' clerk was present in each case. I am of opinion that all mining cases should be tried before a stipendiary magistrate. In small towns political, professional, and commercial relationships are sometimes very powerful." The Mines Regulation Acts have already done much good, and it is to be hoped that nothing will be left undone to make it even more effectual.

QUININE FROM GAS TAR.—It has been truly said that the history of gas tar is almost a romance, so numerous, wonderful, and valuable are the products of its decomposition. From it, by means of the magic of modern chemistry, the sweetest of scents, the most brilliant of colours, and the most powerful of disinfectants and oils have been obtained. Yet, valuable as have been the discoveries from the distillation of coal, yet a great deal more may be expected from the scientific research still going on; and in noticing this subject some time since we expressed the opinion that quinine would be manufactured artificially from the gas tar, for it was whilst endeavouring to effect such a result that Mr. Perkins was led to the great discovery of mauveine and the beautiful aniline dyes. Now we are told that Professor Fischer, of Munich, after a long series of investigations concerning the nature and action of quinine, has found that a substance can be obtained in the form of a white crystalline powder from coal tar which resembles quinine in its action on the human organism. By its application there is a rapid diminution of fever heat, and its efficiency in this respect is said to be remarkable, as it will render the use of ice in fevers unnecessary, whilst it assimilates with the stomach even better than quinine. Although the new discovery may not have all the properties peculiar to quinine, it at least brings us nearer to finding the true and minute properties of quinine, and the true character of its agency. The discovery has been patented, and works established for its production under the direction of Professor Laubeneheimer, of Giessen. Still further discoveries in the same direction may now be looked forward to. Prussian acid has been obtained from gas tar, and there is now every reason to believe that brandy itself will be produced from the same source, seeing that the capabilities of distilled coal are yet but partially realised.

THE WORKING OF STRONTIAN IN SICILY.—The recent introduction of strontian into the manufacture of tuyeres has given considerable importance to this mineral, which is comparatively scarce. Besides the deposits in Westphalia, those of Sicily are rather extensive, as to the working of which the *Chemiker-Zeitung* gives the following details:—"The celestine, or sulphate of strontian, is found at Favara, near Gireggi, in the strata of the lower Miocene rocks, which in Sicily generally contain sulphur. These strata consist of limestone, calcareous marl, and gypsum, in the midst of which the sulphur is disseminated, generally in the form of fine powder, and more rarely in nodules the size of a pea or nut. At Favara sulphur is not present to any great extent, but is partly replaced by sulphate of strontian. The upper strata of the rocks, which are mainly horizontal, are decomposed by the action of the air; the light mineral particles are carried along by water, while the celestine, which is heavier, and therefore less liable to be carried away, remains in blocks on the surface. In appearance it differs but little from the limestone with which it is associated; but it is easily distinguished by its greater specific gravity (3.9), on account of which it has received the local name of cuchiommo, from come piombo (like lead). The ore is at present only worked open-cast at Favara, no regular mine workers having yet been attempted. The inhabitants of the region lead it down to the railroad stations at Gireggi or Palermo, where it is bought by merchants at 35 lire (28s.) a ton. At Porto Empedocle it is screened, to free it from the gangue, and then shipped for Hamburg and other ports. In 1880 only 1000 tons were exported; but in 1881 the production increased to 4000 tons. Works are now going up at Rossolai, in Alsatia, for the conversion of the Sicilian ore into caustic strontian and carbonate of strontian, this latter (strontianite) not being found in Sicily."

MINING INSTITUTE OF CORNWALL.—Two new numbers—the seventh and eighth—of the Proceedings of this Society have just been issued through Messrs. Lake and Lake, of Truro, and contain papers and the reports of discussions upon them, which cannot fail to be of great utility to practical miners generally. The papers were fully referred to in the *Mining Journal* when they were read. The present numbers include the papers on Mining Explosives, by R. J. Cannack; Technical Education of Miners, by C. Twite; the Dressing of Tin Ore and Causes of Waste, by R. H. Williams; Ventilation, by W. Teague, jun.; Stamping Machinery, by W. Husband; Improved Method of Dressing Tin Ore, by W. Teague, jun.; Perpendicular Shafts, by W. T. White; Importance of Drawing in Deep Mines, by C. F. Bishop; Smoke in Relation to the Health of Miners, by R. S. Hudson; and on Underground Temperature, by Josiah Thomas. There are also the report of the Council and balance-sheet. The Institute may be congratulated upon its liberality in publishing their Proceedings at a cheap rate, so as to give non-members the advantage of

their labours and researches, and it is to be hoped that the sale of them will add to the society's resources, and thus enable it to extend even more widely its useful exertions.

SCOTCH PIG-IRON WARRANT MARKET.

Mr. W. WILSON (Glasgow, Aug. 9) writes:—The market has shown firmness during the past week, but outside operators still buy sparingly, nor is it likely that the public will take much interest in warrants while the price keeps under 50s. Speculation, which has usually taken the initiative in upward movements of the price, is now unwilling to anticipate anything. Shipments again compare favourably. The number of furnaces blowing remains at 115. The stock in store is almost stationary. The balance out here on the week is 66 tons, and at Middlesbrough there is an increase of 7 tons. Business was done during the past week at the following prompt cash prices:—

Thursday, Aug. 2.	Friday, Aug. 3.	Monday, Aug. 6.
47/6, 47 1/2, 47 7/8, 47 6/8 ...	47 7/8, 47 6/8 ...	No market.
Tuesday, Aug. 7.	Wednesday, Aug. 8.	Thursday, Aug. 9.
47 6/8, 47 1/2, 47 7/8, 47/4 ...	47 3/4, 47 1/2 ...	47 1/2, 47 1/2, 47 1/2 ...
Price of Scotch Warrants on Aug. 7	1882.	1882.
Furnaces in blast in Scotland do. ...	155 ...	150 ...
Iron in store at this date ...	115 ...	120 ...
Shipments of Scotch pig-iron for week ending Aug. 4 ...	584,492 ...	532,455 ...
Do. since beginning of year ...	13,722 ...	13,579 ...
Price of Middlesb' No. 3, Aug. 7	381,203 ...	379,094 ...
Furnaces in blast Middlesb' dist. ...	397 ...	369/9 ...
Middlesb' Iron Imported at Grangemouth, week ending Aug. 4 ...	4,630 ...	3,825 ...
Do. do. since beginning of year ...	159,324 ...	132,065 ...
	178,319 ...	144,150

THE CONSETT IRON COMPANY.

The Consett Iron Company have issued their report for the past year. The following table, prepared by Mr. S. N. Challoner, Grey-street, Newcastle, shows the dividends, prices, &c., of the company's shares for the past 10 years:—

Profits year	Dividends per Share.	Undivided Profits.	Price, ending June 30.	Price, July 1.
1874 ... £304,127	40s. 0d.	50s. 0d.	£6,203 ...	17 1/2 ...
1875 ... 215,101	20 0	40 0	18,174 ...	17 1/2 ...
1876 ... 86,257	7 6	15 0	24,548 ...	11 1/2 ...
1877 ... 83,288	7 6	15 0	31,642 ...	11 pm ...
1878 ... 57,996	5 0	13 9	32,999 ...	10 1/2 pm ...
1879 ... 55,995	5 0	10 0	36,070 ...	8 1/2 pm ...
1880 ... 104,497	7 6	22 6*	43,316 ...	16 pm ...
1881 ... 155,070	15 0	25 0	25,095 ...	18 pm ...
1882 ... 128,494	12 6	17 6	16,740 ...	19 1/2 pm ...
1883 ... 130,218	12 6	15 0	16,363 ...	16 1/2 pm ...

* And bonus shares 21. 10s. per share, making with the dividend 32. 12s. 6d. per share for the half-year.

From 1874 to 1880 there was a reserve fund of 100,000*l.*, which, together with 38,000*l.* taken from undivided profits, was in 1880 given to the shareholders in the proportion of one share for every three shares held. The bonus shares being worth about 15 premium, the bonus was really equal to 7*l.* 10*s.* instead of only 2*l.* 10*s.*

QUICK SILVER.

TO THE 31ST OF JULY, 1883, INCLUSIVE.

	1882.	1883.
Seasons import, entries, bottles,	about 46,990* ...	about 52,363
Imports from Jan. 1 to July 31, bottles	" 41,990 ...	" 52,363
Exports	" 21,444 ...	" 29,923
Imports for July	" 492 ...	" 18,265
Exports	" 2,808 ...	" 3,718
Price per bottle, about	£5 17 6 ...	£5 12 6

* Including December, 1881, Spanish. Stock in London to July 31, 1883, roughly calculated, is about 102,500 bottles.—London, Aug. 9. J. BENNETT BROS.

THE COPPER TRADE.—The following are the Customs Returns of Copper for the past month, also for the first seven months of the year, reduced to a common denominator, and compared with the same figures in 1882:—

	1882.	1883.
Copper, in pyrites	Tons 1195	1372
Ditto, in ore	1570	2526
Ditto, in regulus	510	1088
Ditto, in precipitate	1637	1509
Foreign raw copper	2950	3111
Total tons	7862	9606
Value of above	£463,810	£565,453

IMPORTS, JANUARY 1 TO JULY 31.—Copper of all descriptions ... Tons 56,435 ... 52,184

Value of above

£3,393,542 ... £3,257,139

STEEL COMPANY OF SCOTLAND.—The directors, at their meeting on Wednesday, agreed to recommend the payment of a dividend at the rate of 12 per cent. per annum for the year ended July 12, 1883, after writing off for depreciation 17,000*l.*, adding to reserve fund 5000*l.*, and carrying forward to next year 3300*l.* The dividend last year was at the rate of 7 per cent.

MANUFACTURE OF MILD STEEL.—Some improvements in the manufacture of plates, sheets, angle, and of all other sections of bar-iron and of forgings made from ingot iron or steel produced by the Bessemer, Siemens-Marten, basic, or other new processes now in operation which are designed to produce a more reliable material than is obtained by the method now in use of casting the material into large ingots of great thickness, which, in cooling down, often develop fractures internally and externally; and as such ingots are never again raised internally to a welding heat, such fractures always remain a secret defect in the article manufactured, have been invented by Mr. W. M. PROSSER, of Newcastle-on-Tyne. He casts the steel or iron from the converting vessel or ladle into comparatively broad and thin sheets or slabs (say) of 1 inch or any other convenient thickness, the steel or iron having already been tested to ensure its being sufficiently free from carbon and other foreign ingredients as to make it of a weldable quality. These sheets or slabs are, when cooled sufficiently to remove, taken to suitable shears or other machinery and cut into convenient strips both in width and length for "piling," and are then treated as bar-iron or steel produced by the puddling process. If it is desired to make ship or boiler plates the slabs are cut from 12 to 24 inches wide, and suitable lengths "piled" one upon another to produce the required weight of "pile." If sheet or bar iron is wanted, then the slabs are divided into narrow strips, as may be required.

GASO-ELECTRIC LAMPS.—The lamp, according to the invention of Mr. J. H. LODER, of Brussels, is formed in a manner somewhat analogous to that of a Bunsen burner, in the flame of which are two or more carbon rods through which the electric current passes. The gas is led into a mixing chamber, into which air is also led. The gas pipe is surrounded by a moveable cylinder of non-conducting material, capable of being moved up and down, and to and through said cylinder pass metallic threads or wires, the lower extremities of which are in connection with the dynamo, or other electrical source of supply, while the upper ends are in contact with conducting springs which bear upon the carbon holder arms, or the wires may be connected directly with the arms. The springs also serve to keep the carbon points approximately together. For the purpose of regulating the carbons a ring of non-conducting material may be employed in conjunction with the carbon holder arms and the screw cylinder. To regulate the gas flame an exhaust or regulating chamber is employed into the opening, at the base of which a portion of the flame passes, as well as the products of combustion. From this chamber a pipe leads out of the lamp, and surrounding said pipe is a second or larger pipe leading into the top of the lamp for the purpose of supplying air thereto; the base of the outer pipe may be supplied with gauze or wire netting to prevent any sudden inrush

of air. Below the exhaust chamber a reflector may be placed. When the lamp is employed in rooms the arrangements may be simplified by omitting the exhaust chamber, and substituting therefor a plate of metal, glass, or porcelain, provided with an opening through which the flame will pass slightly, a species of balloon above being also employed, the motion of which may be employed for regulating the access of air.

THE DOLCOATH FRAUD—THE FICTITIOUS SHARES.

The proceedings at the special meeting of adventurers on Monday were certainly not calculated to increase the confidence of capitalists either in Dolcoath or any other Cost-book mine shares, as no resolution was passed formally recognising the whole 4499 shares in circulation as valid, nor was any conclusion arrived at as to whether the neglect of the committee should be regarded as culpable to an extent to justify legal proceedings for recovering the loss, or whether the matter should be passed over by compromise or condonation. In a case like the present mere money loss is relatively unimportant as compared with maintaining the status of the shares as a market security; and as it is admitted that the holders of the new shares created by Mayne hold a precisely similar certificate of title to that possessed in respect of the original shares, and that the whole 2499 shares are properly entered in the company's books, it is obvious that any attempt to disturb any present holder would result in interminable litigation, from which every adventurer would suffer. The Chairman of Monday's meeting (Mr. H. W. Williams) stated that at the previous meeting the accountant had only traced 164 shares, but he had since traced the whole. At the request of the meeting the Chairman read the document, which showed the manner in which the prisoner made the defalcations. It was explained that Mayne placed no less than 132 of the shares to the account of local brokers. In concluding his report, Mr. Trythall suggested, for the avoidance of all possibility of fraud, that a register of transfers be kept in the form he had prepared; that the transfers be recorded in it as received; that all transfers be posted in the share ledger when the certificate was issued, and examined by some other person than the party who entered them. He added that, under all circumstances, certificates should be issued with the transfers, and the share ledger examined before the meeting. The auditor had not hitherto considered it his duty to check the share ledger and the cost-book; but he suggested that in future he be instructed to do so. He would also suggest that all mine officials be prohibited

203 shares be written off in correction of the share ledger; that 451 shares be sold on behalf of the adventurers by the committee at such prices and times as they in their discretion shall think fit in order to provide the 25,000*l.* fine exacted by Mr. Basset, and that the remaining 250 shares be retained by the company, and disposed of as opportunity offers, the amounts realised being applied to form a reserve fund to enable the committee to conduct the mine on the ready-money principle, and avoid all bankers and similar charges for financial accommodation." It will be seen that the adventurers generally derive equal advantage from the money raised from the 451 shares sold for Basset's fine, and from the 250 applied to create the reserve fund; so that the real question is the effect of the addition of 203 shares to the 4096 which originally existed. Now, 203 to 4096 is about 4*1*/₂ per cent.; or, to put it roughly in round numbers and money, if the 4096th share be worth 67*l.* 10*s.*, the 4299th share would be worth 65*l.* Hence there would be an apparent loss to the holders of original shares of 2*l.* 10*s.* per share, supposing they wished to sell; but, in fact, this loss would not accrue, because the removal of all doubt from the minds of capitalists as to the validity of the shares in circulation would favourably affect the market more than to that extent. The present value of the 5000th share at present market rates for the mine would be about 55*l.*, so that the 451 shares would yield at least 24,805*l.* towards the Basset fine, although, considering the vastly strengthened financial position in which the mine would be, there would, probably, be a good balance beyond the 25,000*l.* to form the nucleus of the reserve fund. The great object of the original shareholders should be to avoid recrimination and the discussion of legal rights, and to remove the doubt which now adversely affects the market through the question of the validity of certain shares having been raised, and this suggestion certainly seems to be one of the readiest ways out of the difficulty.

SOUTH PHENIX AND CARADON MINE.

The parish of Linkinhorne has long been regarded as one of the best mineral-producing districts in Cornwall. It embraces the famous South Caradon Mine, which upon an expenditure of only 640*l.* produced ore to the value of 1,650,000*l.* The shares of this mine used to move by "leaps and bounds." We remember some four years ago, before it was constituted on its present basis, that the shares in three days rose 60*l.* each. This shows the possibilities of mines in the Linkinhorne district, and it also offers to investors the inducement to employ their money in the immediate neighbourhood from which these riches sprang. What influence, it may be asked, has the riches of South Caradon upon South Phoenix Mine and Caradon Mine! Simply this. The South Caradon and West Caradon great cross-courses traverse the sett. These have been found to have beneficially influenced the lodes in South Caradon, West Caradon, and Phoenix United Mines. The principal lodes passing through the property are known as Grace Dieu, Green Hills, Marke Valley Copper, and the Wheal Jenkins lode. On Grace Dieu lode a shaft has been sunk to the 65*l.*, where the lode is large and strong.

Now, it is the intention of the company to deepen the shaft here, and they are well advised to do so, for the lode has above been productive in every level. Wheal Jenkins lode is regarded as the "champion" of the district. The reports of the various mining experts who have been called in indicate an intelligent line of operations, and this will be pursued with every economy and diligence. The mine is taken over as a going concern, well equipped with machinery and plant. Under all the circumstances, the moderation of the vendors is conspicuous. They positively ask for no cash—only shares. The capital of the company is 30,000*l.*, in as many shares of 1*l.* each, and of these the vendors receive one-half. There will thus be left a working capital of 15,000*l.*; but it is expected that 5000*l.* will bring the company into a dividend paying position. The directors are gentlemen of influence and position, who are not likely to have committed themselves to this enterprise without previous enquiry and examination. The reports of the experts and the prospectus is considered to justify any person seeking an eligible investment in joining a company like this, which certainly presents good prospects of success.

THE WAVE PLATE AMALGAMATOR.

Some few months since an interesting discussion took place in the *Mining Journal* with regard to the flouring of the mercury in the amalgamation process, and the relative claims of Messrs. Crookes and Headwin to the sodium process, in the course of which Mr. Henry Moon, M.E., of Leicester, remarked that his experience in this matter "points to only one cause of the quicksilver flouring, and that is grinding it with quartz, or producing the same effect either by stamping it in the boxes, or too violent action in the amalgamating box or cradle. With quicksilver as pure as it could be made by distillation I have secured gold that was so fine that it could be squeezed through a wash-leather with quicksilver, although the stone that had been crushed and from which the gold was extracted contained copper, lead in which was a portion of silver, sulphur, blende, and pyrites, not one of these metals interfering in the slightest degree with the action of the amalgamating process between the gold and quicksilver, as used in my simple amalgamator. I believe, however, if the ore had been roasted before being crushed the effect might have been different, and for this reason I prefer to crush the ore as found."

Few events in the history of the world, writes Mr. Moon, had such effects in promoting the prosperity of mankind, particularly the English-speaking races, as the discovery of gold in California, in 1848, and in the then Port Philip district of New South Wales, Australia, in 1850. The said districts shortly afterwards being formed into the Colony of Victoria, has probably yielded more of the precious metal than any other country of the same limited area. In the earlier days of these discoveries gold was found in the alluvial ground, hence the terms "diggings" and "diggers." It was not till some few years after the first discovery that any efforts were made to find it in its matrix and probable source—quartz rock. Like the first discovery, the second was accidental, and for a time was only followed by those who had either been fortunate as diggers, or who brought money with them on which to subsist till they should be able to obtain the riches from the reef or lode—for the mining for gold needed a much larger expenditure for tools than the simple pick, shovel, and cradle of the digger.

With the opening up of these quartz reefs it was necessary to have the means of crushing the rock, and then the amalgamating processes for saving the gold therefrom. The first of these crushers attempted to crush and amalgamate at one operation, and the form of the old Chilian Mill or edge runners was the most common. The inventions for separating the gold from its matrix have been almost innumerable; but ultimately the old Cornish stamps, with square shanks of wood, with a cast-iron shoe or crusher—were introduced into Victoria, in 1855; but in 1858 the modern rotating stamp was first invented and used—they are frequently termed round, or California stamps, but they originated in Victoria in the year named.

The crushing being completed the next process is the amalgamation with quicksilver, so that all, or as nearly as possible all, the gold shall be secured. Very few things have had a greater variety of methods tried than that of separating the gold from the tailings or crushed quartz—as it often happened that the quantity of gold was not expected to exceed 1 oz., or even $\frac{1}{2}$ oz. to the ton of stone, of course all chemical appliances save the use of quicksilver had to be discarded. The plans tried have been as various as their inventors have been sanguine. In Jan., 1856, Mr. Moon first turned his attention to this subject, and being engaged in a crushing mill, had many opportunities of experimenting. His first idea was that there should be no grinding or rubbing, and that if possible all the ingredients should have perfect freedom of action, believing that if it was possible to introduce the gold into the middle of the quicksilver, the affinity between them would prevent them ever being separated except in the retort.

The well-known tendency of quicksilver, like water, to find the lowest level, suggested an incline plane as the bottom of the amalgamator, and the fluidity of it gave the hope that if the end of the bottom was curved and motion given to the amalgamator at the end,

it would be caused to run up this curve and present a broad thin surface through which the gold, crushed quartz and water could be made to enter. The gold being thus introduced into the middle of the quicksilver, they would not separate, and the water would be free by the action of the amalgamator to wash the crushed quartz away. In the wave plate amalgamator this wave of quicksilver is accomplished to the extent of 6 in. wide by 21 in. long. If the bottom had been continued beyond 3 ft., the water would have been so deep at the curve, that the quicksilver would never have been above its surface, and the finest gold would have been prevented by the flow of water from ever coming in contact with the quicksilver. To prevent this, a second curve, but smaller than the other, was introduced, and a second bottom on a parallel line to the first continued towards the delivery end near which the bottom was inclined downwards, and the water and stone discharged therefrom.

Simple as the wave plate amalgamator is, it is hardly possible to convey any idea of the numberless experiments that had to be made before the right inclination of the bottom, and the proper curve for the play of quicksilver were reached. For crushed quartz of the ordinary specific gravity the amalgamator was now perfect, and as long as the motion given by an eccentric at the back end was continued, and the crushed ore and water supplied it required absolutely no attendance. But when Mr. Moon was fixing one at the Guadalajara Gold and Silver Mines, near La Nava de Jadraque, about 75 miles from Madrid, in Spain, in October, 1882, he found tailings of such great specific gravity, and with such a tendency to pack even under water that the greatest pressure that could be given by the thumb had no effect in altering the surface. To overcome this difficulty he invented and applied, with complete success, a frame of rakes with triangle-shaped teeth, which entered by their sharp edge into the crushed ore, and by the action of an eccentric that moved the frame within the amalgamator, and as near to its bottom as possible so as not to touch it, the flat part of the teeth pushed the tailings towards the delivery end of the bottom, and all packing prevented.

The amalgamator is suspended from a frame overhead by four iron rods that hang from long screw-hooks through the frame, the object of such hooks being that of raising or lowering the amalgamator to a perfect level on its edge, and across its bottom. The clearer frame of rakes is suspended from the same frame, and is adjusted by the same means. As the suspending rods are placed about 2 ft. wider at the frame than the width of the amalgamator a perfectly straight and parallel motion is obtained without guides of any kind. The amalgamator is moved endways by an eccentric placed on a shaft at the framing that carries the shoot down which the crushed ore, gold, and water flows. The clearer frame of rakes is moved by an eccentric on a shaft at the uprights that carry the framing from which the amalgamator and clearer are suspended. The speed of the amalgamator is from 75 to 80 times in a minute, and the clearer from 140 to 150 in the same time—the former having a movement of 3 in., the latter not exceeding 2*l.* in.

In the amalgamation of gold the only metals used should be those that have no affinity for quicksilver for the baser metals lead, zinc, and tin are entirely dissolved and incorporated with itself by quicksilver, copper partially so. Under these circumstances the writer cannot understand the frequent use of copper plates coated with quicksilver as a means of saving gold. To be effective the copper must be incorporated with the quicksilver on it, and the thinness of the coating of quicksilver must present but a very feeble attraction for the gold washed over its surface, especially when the washing process of water and crushed quartz is taken into account. But supposing all the gold coming in contact with it is caught, it follows that in cleaning the copper plate so as to secure the gold a small portion of the copper is taken with the amalgam, and so three metals are found together (gold, copper, and quicksilver) when it is desirable there should only be two, gold and quicksilver, which can be separated in the retort, the product being a marketable sample of gold. Mr. Moon, therefore, never uses any material that has the least affinity for quicksilver, iron and wood being alone employed, and by this simple amalgamator he has caught gold so fine that he has squeezed it through a wash-leather, in the separation of the gold and quicksilver before putting the amalgam in the retort.

SUBSTITUTION OF CAST-STEEL FOR FORGINGS.

Considerable difficulty has usually been experienced in making steel castings free from blow-holes or air-bubbles each one of which represents a separate point of weakness in the casting; Mr. C. M. Pielsticker, of Kilburn, has, therefore, given his attention to the production of dense steel castings, so that cast-steel may be used where forgings of steel or of iron, or cast-iron have hitherto been employed. He proposes to use a vessel, preferably of cylindrical form, of sufficient capacity to hold the contents of a Bessemer converter, and he proposes to make the diameter from one-third to one-half that of its height. This vessel may be made of fire-brick or of any suitable refractory material capable of withstanding the elevated temperature of molten steel, and is to be placed convenient to the converter so that the latter may be emptied directly into the said vessel, or it may be filled by means of a casting ladle. The vessel may be heated from the outside by being built into a furnace, or by means of a forced gas blast, which latter may be temporarily introduced at the tap hole near to its bottom, as will be mentioned hereafter. Inside of the vessel all around its circumference and say about three-quarters of its height it forms a projection upon which rests an interchangeable bottom, fitting closely to the sides of the vessel, which bottom he also proposes to make of a highly refractory material, say, of 2 inches or more in thickness and furnished with numerous perforations, say of 1-16th to $\frac{1}{4}$ of 1 in. in diameter and slightly wider at the top than at the bottom.

A second or several similar such perforated bottoms may be placed in a similar manner underneath the first bottom, having a space of one or more inches between each of them, but in such a manner that the perforations of the different bottoms do not form one continuous line. Immediately underneath the lowest bottom is placed a vent-hole, which may be closed with a loosely fitting plug of a refractory material, acting as a valve, capable of opening towards the outside, and permitting the escape of gases from the inside of the vessel, while preventing the entrance of atmospheric air. At the side of the vessel immediately above its actual or permanent bottom, is placed a tap-hole, which may serve for the admission of a forced gas blast at the beginning of an operation and for the outlet of melted steel at the finish of an operation.

In carrying out the process, the temperature is first of all brought to near that of the melted steel. The tap-hole at the bottom of the vessel is then securely closed. The melted steel is poured in at the top of the vessel and runs down in numerous thin streams through the perforations of the first bottom. On its arrival at the second and subsequent perforated bottoms, if any, it changes the surfaces of these numerous thin streams of the melted steel, thus presenting new surfaces, permitting the escape of the occluded gases. The melted steel finally collects at the permanent bottom of the vessel, from whence it may be drawn off as required. The gases occluded in the melted steel pass out at the vent-hole placed underneath the lowest perforated bottom. The action which takes place inside the vessel will be readily understood. The molten steel being forced by its own gravity through small holes of a certain length in the first perforated bottom, the gases occluded in the molten steel are to a certain degree compressed, and assume a greater elasticity on their passage through these perforations. As soon as the molten steel arrives as a very thin stream at the open space underneath the first perforated bottom, the gases by reason of their compression and consequent greater elasticity have a chance of passing through the thin stream of molten steel and of escaping. The molten steel on arriving at the second perforated bottom is obliged to change its surface, and passes again through a number of perforations, and what gases may be still occluded have again a chance of escaping. The friction caused by the passage of the molten steel through the perforations at the same time assisting the elimination of the gases.

Finally, the molten steel arrives in the large space over the permanent bottom of the vessel thoroughly desiccated, and, therefore, free from any gases, which if not permitted to escape cause on cooling the objectionable air bubble or blow-holes in steel castings. If de-

sired, an opening may be made close to the vent-hole, for the admission of a blast of a highly heated non-oxidising gas under pressure, which would meet the molten steel on its final passage through the lowest perforated bottom, and so assist in the desiccation of the molten steel and the escape of the occluded gases. As the entire operation takes place in a neutral atmosphere, no oxidation of the metal can take place.

COMBINED EQUILIBRIUM AND STOP VALVE.

An improved arrangement of combined equilibrium and stop valve, the object of which is to maintain the most perfect equilibrium and to prevent the stop valve from becoming leaky and defective has been invented by Messrs. Gibbons and Robinson, of Wantage. The arrangement is said to be both simple and effective. The stop valve and equilibrium valve are made in one cylindrical box casting—hereafter termed the valve box—and which box has a screw thread formed thereon to allow of its being screwed into the partition which separates the steam chest from the slide valve chest. In that part of the valve box which projects into the valve chest numerous small ports are cut, which ports are opened and closed by means of a loose collar—hereafter termed the regulator—fitted over this part of the valve box and having a corresponding number of ports cut therein. A circular reciprocating motion is imparted to such regulator by means of bevel teeth cast thereon which taking into the segment of a bevel pinion attached to or formed on the equilibrium valve spindle move the regulator to and fro just conveniently to open and shut the ports in the valve box; a suitable stop being sufficiently fitted in the latter in order to control the motion of the regulator. Such regulator is kept in position by a covering plate, which is secured by a screw plug, which also forms a support for the equilibrium valve spindle. The other portion of the valve box, which projects into the steam chest forms the valve seat of the stop valve, and has two ports cut therein; a stop valve having two corresponding ports cut therein is fitted over such valve seat in such a manner that when the engine is at work the entire surface of the valve seat is covered by the stop valve, and is so effectively protected from any dirt lodging thereon and injuring the valve surface, which is so frequently the cause of leaky stop valves.

A reciprocating motion is imparted to such a stop valve by a rod screwed to a bar fitting between horns projecting from the top of the valve which rod passes through a stuffing box in the steam chest to the outside of the cylinder, and is moved by a lever and joint in the ordinary way. One of the principal advantages of our invention is that owing to its improved construction and arrangement the equilibrium valve not only possesses the most perfect and delicate sensibility, but can be manipulated with the greatest facility and certainty, whilst constant and effective lubrication is secured. Another advantage is that while possessing increased lasting and wearing powers it can be repaired or cleaned far more quickly and easily than any valves in present use.

GALVANIC TREATMENT OF COPPER AND SILVER ORES.

Experiments are being made in Japan with a view to the introduction of the use of the galvanic process of treating silver ores. The solution of chloride of silver in salt (chloride of sodium), obtained by the Augustin process, has been treated thus. A great difficulty experienced has been to find a proper material for the electrodes. Platinum is excellent, but costs too much, with a bath 100 centimetres deep, and with a sectional area of 100 centimetres of the copper conductors, the requisite amount of platinum being at least 70 kilogrammes. Gold, silver, quicksilver, and all base metals being dissolved by the chlorine, set free by the decomposition of the chloride of silver, cannot be used. Advantage has been taken of this dissolving power of the chlorine, set free after many trials, in the following way, but only on a small scale thus far.

Two Beeker glasses are partly filled with a salt solution of chloride of silver, and connected by a tube, whose ends are bound by linen cloth to prevent the entrance of any solid substances. Two electrodes of platinum wire are introduced into the glasses. The decomposition of the dissolved chloride commences, and the chlorine set free attacks the copper (for instance) pyrites. There are formed of hydrochloric acid, chloride of copper, perchloride of iron, and also sulphate of copper and sulphate of iron, these last sulphates being changed by the chloride of sodium, so long as this is present, to chloride of copper, perchloride of iron, and sulphate of soda. The necessary supply of chloride of sodium (which is constantly being decomposed) is effected by allowing fresh salt solution to drop constantly from a vessel. Thus there is maintained a flow of the solution, when the excess, holding principally sulphate of soda, is drawn off by a syphon.

The chlorides which go into solution are being constantly decomposed—copper, iron, silver, &c., are precipitated on the bottom in slightly coherent masses, while the chloride attacks anew fresh bodies of ore. The process continues without interruption until all the ore is decomposed, and all the metal precipitated.

The process has been used successfully only in the laboratory, but trials are being made with a view to its introduction on a large scale. Where power is cheap it promises to be valuable, especially for ore rich in lime, which has been very difficult to treat successfully by other methods.

—Berg- und Hüttenmännische Zeitung.

SILICIOUS BRONZE MANUFACTURE.

For some time past considerable attention has been given to the manufacture of bronzes by Mr. Lazare Weiller, of Angoulême, France, and he has recently invented some further improvements in the manufacture of silicious copper and silicious bronze, with the object of producing an alloy particularly suited for making electric conducting and other wires, parts of machinery, and so on. Mr. Weiller's invention of April, 1882, has been found to give excellent results; but he now proposes to substitute in certain cases for the materials for producing the sodium necessary during the operation an amount of pure sodium combined with tin when it is required to make silicious bronze, with copper when it is required to make silicious copper, or even directly with bronze in special cases. In this way there can be obtained on a commercial scale as much as 12 per cent. of silicon in an alloy by causing one part of sodium combined with tin, copper, or bronze to act upon four parts of fluosilicate of potass introduced directly into the alloy. In the new process of making silicious bronze a previous combination of tin with sodium is made, and this combination he calls "sodium-tin," and when he wishes to add copper he mixes sodium-tin therewith, and the compound thus formed he calls "sodium-bronze." The present invention thus comprises the manufacture of these compounds for the purpose of subsequently forming a combination of silicon with them or one of them in the presence of, or by means of fluosilicate of potass when melted with copper or bronze to form the required silicious alloys. The compound sodium-tin is made by first melting the tin in a crucible and stirring the molten metal while the sodium is very gradually added thereto; the compound thus made may then be allowed to cool, and may be kept for use as required. In order to make sodium-bronze he adds to melted copper the desired proportion of sodium-tin.

Instead of forming these compounds previously, the process of manufacturing silicious bronze may be modified by making a direct mixture of the metals which would form the silicious bronze; tin and sodium, with the desired amount of fluosilicate of potass, would then be introduced into the melted copper or bronze; or, if the bronze already contained sufficient tin, only the sodium and fluosilicate would be introduced. In like manner, if it is desired to make silicious copper, the sodium is introduced with fluosilicate of potass into the melted copper. In all cases where sodium is used, uncombined with tin, it must be introduced very gradually into the melted metal. The fluosilicate should be introduced first, then the sodium, and lastly the tin, when this is to be added.

When a larger amount of sodium is required than can be conveniently combined with the tin to be employed in the alloy, sodium in an uncombined state can be used in conjunction with the sodium.

tin or sodium-bronze, the sodium and the sodium-tin or sodium-bronze being introduced with fluosilicate of potass into the melted copper or bronze. The new process is therefore complementary to the process described in his former specification. It enables him to obtain not only wires adapted for use, in connection with telegraphs, telephones, and the conduction of electricity generally, but wire for other purposes, and also to manufacture machinery or parts of machinery and guns which will offer great resistance to friction, blows, strains, and other molecular disturbance.

For the manufacture of his sodium-tin he generally employs from 5 to 30 parts of sodium to 100 parts of tin; for the manufacture of sodium-bronze he generally uses an amount of sodium-tin which will give an amount of tin equal to about 10 to 15 per cent. of the copper. For the manufacture of silicious copper or silicious bronze the quantity of fluosilicate of potass which should be used to cause the combination of the silicon with the sodium is about 2 to 4 times the weight of sodium employed, whether such sodium be introduced into the melted copper or bronze in a separate state or (for the manufacture of silicious bronze) it be combined with tin in the form which he calls sodium-tin, or with tin and copper in the form of sodium-bronze.

The materials thus added to the melted copper or bronze react in the midst of the mass during the fusion of the alloy, and by this process it is easy to get a considerable quantity of silicium alloyed or mixed with the metal. For the manufacture of silicious bronze the proportion of the tin may be considerably varied from (say) about 0 to 15 per cent. of the copper, and for the manufacture of silicious copper and bronze the proportion of silicium added thereto may be varied from (say) about 0 to 12 per cent. In order to obtain 12 per cent. of silicium in the alloy he employs about three parts of fluosilicate of potass to 10 parts of copper; a smaller quantity of the fluosilicate will give a proportionately smaller percentage of silicium in the alloy. The sodium compounds described, and which he calls sodium-tin and sodium-bronze, although specially intended for use in the manufacture of silicious bronze in the manner explained may also be used for other purposes.

OBTAINING ZINC AND COPPER FROM THEIR ORES.

The aqueous solutions of ammoniacal gas and of carbonate of ammonia have the property of dissolving oxides and carbonates of copper and zinc, and the latter are precipitated if the ammonia or the carbonate of ammonia are extracted from their solutions, it is upon the application of this property of ammonia that this method or process for the treatment of copper and zinc ores is based. The two ammoniacal solutions act in the same manner, but it is liquid ammonia—that is to say, ammonia in solution in water, that is referred to in the following description:—The ammonia only dissolves the oxides and carbonates of copper and zinc in the ores which naturally contain them, otherwise it is necessary to roast them completely several times with carbon in order to decompose the sulphates, antimonates, arseniates, and other matters which may be contained therein, and which will occasion a great loss in the treatment of the ores. The solution of ammonia of commerce at 20° Baumé, which contains about 500 times its volume of ammoniacal gas, dissolves such a quantity of oxide and carbonate that the proportion of metal dissolved is 0.13 of its weight, in practice it is necessary to employ 10 parts by weight of liquid ammonia of commerce to one part by weight of the metal contained in the ore in the form of the oxide or carbonate.

Two principal series of operations are comprised in the invention of Messrs. KRAFFT and SCHISCHKAR, of Paris, which they have recently patented in this country. First, the dissolving of the oxides or carbonates of zinc or copper in the ammonical liquid, the washing and separating of the gangues, and the filtration of the liquid containing the metal in solution. And, second, the precipitation of the dissolved oxides or carbonates by the expulsion of the ammoniacal gas from the solution, the washing and separation of the said oxides or carbonates, the filtration and cooling of the liquid still containing a certain quantity of ammonia, and finally the regeneration of the concentrated ammoniacal liquid designed to be employed in subsequent operations. In carrying out these two principal operations for the treatment of copper or zinc ores, they employ special apparatus, the arrangement of which varies according to whether the ammoniacal gas is driven from its solution by the action of heat alone, or by the action of a vacuum, the heat being applied only to prevent the temperature in the apparatus from falling below from 25° to 30°. When a vacuum is employed the arrangement which they prefer necessitates the use of a powerful air-pump. When heat alone is employed, the heat is furnished either by means of steam or by the direct application of heat from a furnace as hereinafter described.

It will be most convenient to describe successively the different arrangements above indicated, and corresponding with the two modes of extracting the ammoniacal gas contained in the solutions. In dissolving oxides or carbonates of zinc or copper in ammonia they employ the following arrangement, that is to say:—The ore, pulverised and passed through a No. 20 sieve, that is to say one of which the meshes are less than one millimetre, is brought in a wagon to the top of a mixer. A charged hopper is then opened by allowing the doors to fall, these doors are again closed by means of rods, and the contents of the wagon are emptied into the said hopper, and will serve for the succeeding operation and ensure the tightness of the closure. The said mixer is made of sheet metal and of cylindrical form, it contains half helix or screw blades set in motion by means of a bevel wheel actuated by a motor; this screw is designed to agitate and constantly return the ore into the liquor.

After the introduction of the ore, the volume of ammonia corresponding with the weight of the ore is admitted by means of a cock situated at the upper part of the apparatus, the level of the liquid being easily ascertained by a gauge glass. The operation must be effected at the ambient temperature, any elevation of the temperature diminishing the quantity of ammoniacal gas dissolved, and causing a useless tension of the gas. In less than two hours, the dissolution of the oxide or carbonate contained in the ore is terminated; the agitator is then stopped and the liquid contained in the apparatus is allowed to settle for about 30 minutes, and is then successively drawn off by three cocks placed at different levels; the ammoniacal solution strongly agitated flows into a tank or reservoir by means of a pipe.

The sandy residues left in the mixer are still impregnated with ammonia containing metallic oxide in solution; a suitable volume of pure ammoniacal liquid is then introduced into the apparatus by the aforesaid cock, and the agitator is again set in motion. The liquid is then allowed to settle and drawn off as above described, combined with the liquid previously left in the apparatus. The sand or pulverulent gangue remains in the apparatus containing only nearly pure ammonia, which can be recovered; for this purpose a valve is opened and a certain quantity of water is admitted into the mixer by means of a cock, the agitator is then set in motion; all the sand, with a certain quantity of water, passes into a boiler arranged for this purpose a little below the lower level of the mixer. The said valve and cock are again closed, and another series of operations is commenced. The complete operation occupies two hours, or three at the most. In order to extract the ammonia contained in the sand and in the washing water in the said boiler, the latter is, by means of a pipe, placed in communication with a powerful air-pump, which effects an energetic exhaustion, and at the same time steam is introduced by means of a pipe; the ammoniacal gas exhausted is driven into chambers for regenerating the ammoniacal liquid.

The ammoniacal gas, under a low pressure, or in a partial vacuum, the temperature of the liquid being maintained at 25° or 30°, is almost entirely extracted in one hour. The exhaust valve is then closed, as well as the steam inlet, and a valve and cock are opened, and after removing a manhole on the boiler the interior of the same is cleansed of the sand which it contains. As above stated, the ammoniacal solution, charged with zinc in solution, which passes into the said tank or reservoir, is agitated it is again taken by a rotary pump and forced through a pressure filter in which the filtering

material is asbestos or wool compressed between two perforated plates, the apparatus being so arranged that these materials can be replaced with facility.

The lower conical part of the filter is furnished with a rotary shaft set in motion by means of a belt and pulley which moves a circular brush designed to constantly cleanse the lower perforated plate of the filter, and to detach therefrom the sediment, which falls to the bottom of the filter, where an agitator keeps it in suspension so that it can be extracted from time to time by means of a cock. This filtration would be needless for the cupreous solutions, and for the preparation of oxide of zinc, with a view to the manufacture of this metal; it is, on the contrary, indispensable if it is desired to apply the oxide of zinc obtained to the manufacture of colours. This operation would be itself insufficient for obtaining oxide of zinc absolutely pure with calamine. In this case it would be necessary to immerse plates of zinc for 24 hours in the filtered ammonical liquor which would precipitate the lead, cadmium, or other matters which might accompany the zinc in the solution. As above stated, the oxides or carbonates contained in zinc or copper ores can be dissolved without employing a vacuum. In this case they employ another arrangement of apparatus—that is to say, the mixing apparatus is formed of a cylinder of sheet metal terminated by semi-spherical portions and turning upon two hollow trunnions, one of which receives the driving pulley and the other a pipe passing through a stuffing box and connected to the pipes for supplying water, ammonia, and compressed air to the apparatus.

Towards the middle of the cylindrical wall of this mixer or receptacle is arranged a filter between two sheets of metal closed by a tight cover provided with a cock; on the opposite side of this receptacle is arranged laterally a manhole, which serves for charging the receptacle with ore. The operation is as follows:—The proper proportion of ammonia and of the ore to be treated being employed—that is to say, the ore is first introduced through the manhole, which is then hermetically closed; the requisite quantity of ammonia is then admitted by the said pipe and the apparatus is rotated. It is stopped after working for two hours, care being had to stop the apparatus, so that the said filter is at the under side, to this filter is then fitted a tube whose extremity is flexible, a cock is then opened to admit compressed air, under the action of which the filtered solution passes by the said tube into an alembic. Instead of operating by pressure they can effect the operation equally well by suction by previously creating a vacuum in the said alembic.

When the receptacle is emptied the cock is closed, the said tube is disconnected, and the washing is then proceeded with by admitting a certain quantity of ammonia and again rotating the said receptacle, it is stopped and the filtration effected as above described, two washings are thus effected with ammonia, then one or two with water so as not to leave any metal in the sediment. The sediment is emptied out through the man hole which is brought to the underside of the apparatus, into which is admitted a strong current of water, and which is kept in motion during this operation; the waste material extracted by the water flows into a channel arranged for this purpose below the said apparatus, and a fresh series of operations can be proceeded with.

The precipitation of dissolved oxides or carbonates by the extraction of the ammoniacal gas contained in the solution when the operation is effected by means of a vacuum they adopt the following arrangement of the apparatus, that is to say, the filtered liquor is collected in a tank or vessel, and is taken therefrom by a pump which delivers it into an evaporator. This evaporator, which is made of strong sheet metal, is provided in its interior with a helical agitator, set in motion by means of pinions in a similar manner to that in the aforesaid mixer; the evaporator also contains a serpentine heating coil or pipe into which steam is admitted at the upper end and passes out at the lower end condensed to return to the generator from which it is supplied; a water gauge glass permits of ascertaining the exact quantity of liquid introduced into the said evaporator.

The filtered ammoniacal liquid, containing the metallic oxide in solution, and maintained by means of the said coil at a temperature of about 25° or 30°, is then subjected to the action of an exhaust pump capable of producing in the said evaporator a partial vacuum; under these conditions in less than two hours the proportion of ammonia contained in the liquid can be reduced to 1-10th. It is needless to proceed further, because at this degree of concentration the liquor contains only traces of zinc, and because this liquor will serve to regenerate the concentrated ammoniacal liquid.

The metallic oxide, which is precipitated during the operation, accumulates at the bottom of the apparatus, and the liquid above can be drawn off successively by means of three cocks placed at different levels, which admit it to another tank by means of a pipe; the agitator is then set in motion, and a cock opened to admit into a filter the oxide or the carbonate in suspension in the water; another cock permitting, if necessary, the introduction of pure water to effect the withdrawal of the particles of oxide.

The bottom of the filter is formed of a perforated metal plate covered with wool or felt, upon which are collected the residues from both the operations to be dried and calcined. As above stated it is not necessary to employ a vacuum to extract the ammonia from its solution and effect the precipitation of the oxides or carbonates of zinc or copper; heat alone can be employed to obtain these results. In this case they employ for this purpose an arrangement in which the ammoniacal solution which passes into the alembic is heated by a furnace or other suitable means, and after some hours of ebullition nearly the whole of the ammonia escapes by a serpentine coil or pipe with the condensed water, and passes into reservoirs in which the ammoniacal liquid is regenerated to be employed in subsequent operations.

When it is judged that the whole of the ammonia has been extracted by distillation an outlet cock is opened, and the agitator is set in motion so as to detach the deposit, which then flows with the hot water into a filter similar to that described. The liquid, still slightly ammoniacal, passes into a refrigerator having compartments in which a current of cold water circulates for the purpose of lowering the temperature before the liquid passes into the said tanks or reservoirs, where the ammoniacal liquid is regenerated. It is important to utilise the said slightly ammoniacal liquid in order to avoid a sensible loss of this alkali.

The improved process above described can be applied to the separation of the copper and zinc contained in complex ores, either for the purpose of utilising these two metals only, or in order to isolate them from other metals which must be extracted separately; thus, for example, in treating calamine containing lead, in the manner above described, carbonate of lead is formed in the residues unattacked, and a single washing frees it from gangue. The construction and arrangement of the different parts of the apparatus of course can be varied or modified without materially changing the whole arrangement of carrying the invention into practice.

MINING IN THE SOUTH-EASTERN STATES OF AMERICA.

SIR,—At the close of my letter of July 17, I mentioned the desirability of establishing smelting-works in this neighbourhood. Since that letter was posted, I have seen in the local papers that there is a talk of this being carried out by some northern capitalists; but, so far as I can learn, I think the wish (of those here) "is father to the thought" of these northern men. I have discussed this subject with many, and there seems to be but one opinion—that it would be a very good and profitable thing for all parties. The sleepers for the railway running past here are supplied by small farmers, residing within a radius of from three to ten miles; the sizes are—length, 8 ft.; thickness, 8 in.; width, 12 in.; yet for these, of oak, the price paid is only one shilling English when delivered at the station here. A horse can only haul five at one load, some only four, so that, as the loads are only brought every other day, and sometimes less frequently, the wages earned for man and horse vary from 2s. to 2s. 7d. per day. From the numberless outcrops of copper and other metals, from which large quantities of surface ores could be got with little trouble than carting away, I believe a large business would be started and carried on by those who now bring these sleepers, and their pay would far exceed that now earned by them. The reason

for the very low price of sleepers is, that the railway company will not take them beyond their own line, so they dictate their own price, and for lack of other employment to fill up time, they are brought in by the cultivators of the surrounding land, who would be very glad to exchange the occupation for one of a more profitable kind.

I believe from this casual source sufficient ores would be brought in to keep a furnace going, and the supply would be largely increased by those who would work their mines if they could see any prospect of converting their ores into cash, without the expense of sending them many hundred miles by railway, and probably thousands of miles by water—say, for instance, to Swansea.

The cost of sending the Silver Valley ores to Swansea was \$15—equal to 3s. 2s. 6d. If they could be smelted here the cost for freight would not exceed \$2.50—10s. 5d., or a saving of 2s. 1d. in freight. I give this as an instance within my own knowledge.

I hope capitalists in England will see their way to begin such works here, for it would do more than anything else to develop the mineral riches of this State, and would be profitable to those engaged in the work.

HENRY MOON, M.E.

Thomasville, North Carolina, July 28.

WEST CARADON MINE—SPECIAL REPORT.

Aug. 6.—According to instructions with which I had been favoured I made a thorough inspection of this mine on Aug. 1, and was much gratified to see the steady progress which the mine has made since I inspected it two years ago, verifying the correctness of the valuations and predictions of success which I then made.—Gilpin's Lode: In the adit level west the end has been driven for some distance through a very kind lode, about 2½ ft. wide, worth 1 ton of copper ore per fathom. There is a cross-joint intersecting the lode in the forebreast which has disordered the lode a little, but I attach no importance whatever to that, and the lode will soon gain its former value. Behind this end there are two stopes and a rise, which are in whole ground both over and under the level, where the lode varies from 1 to 2½ ft. wide, and will average fully 1 ton of ore to the fathom. At the present moment this part of the mine is badly ventilated, and cannot be made the most of, but there is a winze being sunk to the 17 which will be communicated in three or four months, and will then place it under far more favourable conditions for working and yield a better profit. In the mid-level, about 9 fms. above the 17, east of the main cross-course, a good discovery has been made by driving east from the former old workings; the ore here is of a very rich quality, being a mixture of black oxide of copper and copper glance. The lode is well defined, about 2 ft. wide, and worth 12s. per fathom. In the 17, between this point and the main cross-course, there is a cross-cut driven north which reaches another lode that converges towards this, both in depth and as it extends east. The junction in sinking would be reached in 10 or 12 fathoms, and in this level no great distance will be required to reach the vertical junction, where splendid results may be looked for. In the 38, west of the main cross-course, I found that the winze had been holed, and the main part of the lode discovered and opened on for a distance of 10 or 12 fathoms, and nothing can be more satisfactory than the results obtained; the lode has splendid walls, and strong in every respect, averaging for the length opened on 1½ ton of ore to the fathom. To the east of the winze the lode has not been cut through, but from the appearance which it now presents it is very likely to retain its present value back to the cross-course, where it was lost, a distance of 13 or 15 fathoms. This completed my remarks on Gilpin's lode, any more than to say that you have ground enough discovered to take a great number of years to take away; but it must be understood that some little more time is required to get the ground opened out for stoping, &c., but it seems quite clear that success has been achieved, and there need not be any hesitation in laying down rails in the level to tram the stuff to shaft; indeed, it must be done.—Vivian's North Lode: In the 38, west of Hallett's cross-course, there are good stopes in the roof, from which were broken down some fine rocks of ore. Taking an average value of these stopes, they are looking better now than they were when I saw them on my former visit, and if my memory is correct the prospects here are very much better than they were at that time. The lode is 2½ ft. wide, and yielding from 2 to 3 tons of ore to the fathom, and there being plenty of whole ground above and below there is a work of many years to work it out. When it may be convenient I should strongly recommend what was proposed by Capt. Richards at the last meeting with regard to working Jope's lode—clearing up of Crouche's shaft, and the 50 cross-cut from the main lode; as this is the only way that Jope's lode can be reached, and the shaft being near the dressing-floors, the ore will be conveniently brought to the place of treatment. I have never seen a mine make more steady progress than this has done, and I can but congratulate the shareholders on the success which has been achieved.—JOHN ROBERTS, M.E., M.M.S.

NEW WEST CARADON—SPECIAL REPORT.

Aug. 6.—On the 1st inst. I made a very careful inspection of this mine, and the following are my remarks thereon:—The 38 fathom level is driven a great distance south on Hallett's cross-course, which has intersected several lodes, but none of them have been driven on for any great distance—not even sufficient to get away from the influence of the cross-course; and I have not, therefore, proved anything. I am given to understand that the object of this cross-cut is to prove what lodes there are in the set, and then open and work the best of them. No. 4 lode is driven on east about 5 or 6 fms., and the end appears now to be coming into one ground. On the footwall there is a leader of very rich ore, which is being saved for the dressing-floors, and I have but little doubt that this will lead shortly to a good discovery.—Olymo's Lode: This lode is further south about 7 or 8 fms., and has been only driven on about 2 fms. from the cross-course.—Main Lode: In the 38 there are two stopes, one in the back and the other in the bottom, both being in the same run of ore; the lode is about 1½ ft. wide, and worth 1 ton of rich ore per fathom. There is a great deal of whole ground here, and will pay for working for a long time to come. This mine has very fair prospects of success, but it appears to me that the mine is not worked with that energy which it deserves.—J. ROBERTS, M.E., M.M.S.

NEW CARADON MINE—SPECIAL REPORT.

Aug. 2.—This is one of those mines included in the celebrated group of rich mines situated on the south-west side of the Caradon hill, and known by the name of the Caradons. The New Caradon adjoins the West Caradon on its north side, and the South Caradon on the eastern side, and is in the same formation, containing in it several of the lodes of the South Caradon, and parallel lodes to those of West Caradon. The water being still in the mine, such particulars as may be thought necessary to give a full report, and a reliable opinion as to the chances of success, cannot be gathered in such direct manner as is altogether desirable; but I think that I have sufficient data, gathered from its internal character, and collateral evidence to arrive at a fair conclusion. The work that was done by the former company was very limited. From what I could gather the levels have not been extended far on any of the lodes, although the engine-shaft was sunk 50 fms. below the adit, and so the mine may be looked upon as being yet in its infancy, having the great advantage of an engine-shaft sunk to the 50. That two of those lodes are rich in copper is evident from the fact that there are springs of water issuing from them so strongly charged with copper and natural acids as to be precipitated in the usual manner. For working the mine there is the advantage of a powerful and never-failing stream of water, which will be used for pumping by a 40-ft. water-wheel, thereby saving the heavy expenditure in coals, &c. Looking, therefore, at all these facts, there is only one just conclusion that can be arrived at—that this mine will, on being vigorously worked, be another of the grand successes for which the district is celebrated.—JOHN ROBERTS, M.E., M.M.S.

WEST GONAMENA MINE—SPECIAL REPORT.

Aug. 4.—I have closely examined this property, and am fully convinced that you have a very valuable concern. Its situation is all that can be desired, and the formation seems to be the same character precisely as that of the Caradon Mines. The main lode is the same as that which produced the main bulk of ore that was sold from the old Gonamena Mines, and from its general characteristics, as seen in the adit level, which is now being driven, there can scarcely be a shadow of doubt that it will prove equally profitable in the West Gonamena. The adit level which is being extended westward is about 10 fathoms deep, and, as above stated, no one could desire a prettier lode at that depth. I observed in the forebreast of the level some very rich oxide of copper. A pile of the same sort I found by the shaft, which had been saved in the driving the level, and on vaning a sample it showed the pile was very rich, and that the lode deserves a spirited trial. The plan which Capt. Richards has for working I heartily concur with, and is what I should recommend. There is another important point to which I must call your special attention—Gilpin's lode of the West Caradon crosses the south part of this mine, and they have in that mine, not more than about 3 yards from the boundary of the mine, a splendid lode of grey and black copper ore, and as Gilpin's north lode will form a junction with this I will venture to predict that there is in that part of the mine a splendid discovery to be made. I do not think that there are many new mines that offer better chances of success than this, and I fully believe that in proportion to the energy and skill with which the mine will be worked so will be the success.—J. ROBERTS, M.E., M.M.S.

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LUMINOUS PAPER.

The invention of Mr. W. C. HORNE, of Old Charlton, relates to the use of phosphorescent substance in the manufacture of paper in such a way as to produce paper that will, when seen in a dark place after exposure to light, appear distinctly luminous, and will maintain its luminosity for a considerable time—say, for example, throughout a night, without re-exposure to light which paper may with great advantage be used for various useful purposes, such as (amongst others) for labels for match boxes, luggage labels, labels for bottles (especially for bottles containing poisons), labels for crates containing fragile goods which by being thus distinguished will be rendered less liable to rough treatment when being moved about on dark nights. Also for wall paper, designs blocked upon which may be highly ornamented whilst such paper will be serviceable for (to a useful extent) lighting up passages and chambers, especially water closets and other places wherein only moderate light is required; for writing paper and envelopes; business, private, and Christmas cards, and for advertisements, and especially for railway coach tablets, which affixed to the ceilings and backs of compartments will serve the two-fold purposes of producing prominent announcements and rendering the carriage sufficiently light to enable lamps to be dispensed with when passing through tunnels during the day time. The material used is sulphide of calcium, and he takes care that it is of a quality that will, after exposure to light, remain (as seen in a dark place) luminous for a considerable time (say, for instance, a whole night). Such a substance is that sold commonly as Puzey's luminous powder. This he either sprinkles over the paper pulp when in the paper maker's chest, mixing the pulp and powder thoroughly by stirring in proportions of about 70 lbs. of luminous powder to 100 lbs. paper pulp, or he makes with the luminous powder a paste by adding to it twice its weight of boiling water, and allows the mixture to stand for about 36 hours, 'but stirring it at intervals during that period. He then pours off any supernatant water, and thus obtains as a product—a paste he terms luminous water paste. He mixes this luminous water paste with paper pulp in the condition known in the trade a three-quarter stuff, so that the comparatively heavy luminous substance shall not be liable to settle and work out when the material is passing through the machine cylinders. Thus in carrying out his invention to 100 lbs. of ordinary paper pulp known as three-quarter stuff (by which he means a pulp containing less water than is contained in pulp as ordinarily used in making paper) he adds about 140 lbs. of luminous water paste, such as above referred to; with these he mixes a small percentage (say, 2 per cent.) of smalt or ultramarine if white paper is desired, and he stirs the compound well in the paper maker's chest; then he rolls it out in the ordinary way between cylinders, or treats it with hand sieves until it assumes the condition known to paper makers as the water leaf.

This water leaf he then tub sizes in the way usually practised by paper makers using size such as ordinarily employed by them. When desired he imparts to the size a waterproof character by adding to it a small percentage of tannin or bichromate of ammonia or other water-proofing substance, or the paper after being made may be varnished with caoutchouc or Damar gum varnishes, or other suitable waterproofing substances. His invention may, besides being applied in the manufacture of white papers, be employed also in conjunction with colours to produce coloured luminous papers, care being taken that no colours are used that contain detrimental substance such as lead.

ELECTRIC PROPULSION FOR TRAMWAYS.—Referring to recent sanguineous accounts of experiments by the French Electrical Power Storage Company, whose principal director is the celebrated Mr. Simon Philippart, tending to prove that horse or steam tramways may be superseded by electricity, Mr. Gerald, one of the greatest electrical authorities, in an article in the *Lumière Electrique*, refuting in detail the position of Mr. Philippart's programme, and contending that electrical tramways would never pay, concludes as follows:—"As for animosity, I have none. Far from it. I sincerely admire the persistence and fertility of resources with which this question of accumulators is renewed, and a vitality sought to be given to it. But what good should we get by feeding on illusions? If the directors of the tramways, Mr. Philippart, the public, and myself should all be received, what would follow? An immense loss of time and money, a deplorable moral situation, and a putting back for years of electric enterprise. I see distinctly that the proposed plan is wrong—that to load carriages with lead to make them move could only be a resource if there were no other methods, and there are other methods. I see that the projectors are mistaken. I say it, and if I did not say it I should reproach myself. There is no question of sympathy or anti-pathy, but simply of truth."

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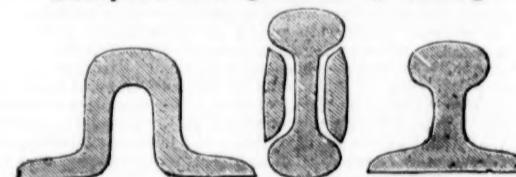
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1242 Devon Gt. Consols, c, t, Tavistock*	1	0	0	34	3%	0
4296 Devon Gt. Consols, c, t, Camborne	10	14	10	65	6%	0
6400 East Pool, t, c, Illogan†	0	9	9	45	4%	0
12000 Great Holway, t, Flintshire	5	0	0	51	5%	0
13000 Great Laxey, t, Isle of Man†	4	6	6	161	16%	0
6400 Green Hurth, t, Durham†	0	6	0	64	6%	0
9230 Gunnislake (Clitters), t, c	2	0	0	13	1%	0
2800 Isle of Man, t, Isle of Man†	25	0	0	—	—	0
5000 Killifield, t, Chacewater	3	0	0	23	2%	0
20000 Lendhills, t, Lanarkshire	8	0	0	23	2%	0
4300 Lisburne, t, Cardiganshire	18	15	0	—	—	0
10000 Mellance, c, Hayll	2	0	0	34	3%	0
9000 Minera Mining Co., t, Wrexham*	5	0	0	8	8%	0
20000 Mining Co. of Ireland, c, t, C*	1	0	0	—	—	0
11829 North Hendre, t, Wales	2	10	0	—	—	0
8146 Ditto	2000 North Levant, t, c, St. Just	13	6	21	2%	0
20000 Penhale, t, St. Agnes	4	0	0	34	3%	0
12000 Phoenix United, t, c, Linkinhorne	8	0	0	24	2%	0
12000 Roman Gravels, t, Salop*	7	10	0	75	7%	0
50000 South Cadron, c, St. Cleer†	0	10	0	75	7%	0
6123 South Cadron, t, Camborne†	7	5	7	84	8%	0
9000 South Darren, t, Cardigan	11	0	0	1	1%	0
6000 Tineroft, t, Pool, Illogan†	12	10	0	75	7%	0
5000 Van, t, Llandilo	4	0	0	54	5%	0
2000 West Holway, t, Flintshire	1	0	0	13	1%	0
8000 West Bassett, c, Illogan†	7	10	4	51	5%	0
6000 West Kitty, t, St. Agnes	0	12	0	13	1%	0
12000 Wheal Creb, c, Tavistock	2	4	0	24	2%	0
1024 Wheal Eliza Consols, t, St. Austell	18	0	0	4%	4%	0
6000 Wheal Grenville, t, Camborne	15	0	0	6%	6%	0
4295 Wheal Kitty, t, St. Agnes	5	12	0	13	1%	0
3000 Wheal Peever, t, Redruth	10	1	0	4	3%	0

FOREIGN DIVIDEND MINES

Shares	Paid.	Last wk.	Clos. pr.	Total divs.	Per sh.	Last pd.
35500 Alamillos, t, Spain†	2	0	0	2	1%	0
13000 Almada, and Trito Consol., *†	1	0	0	56	5%	0
20000 Australian, c, South Australia†	7	6	3	23	2%	0
15000 Birdseye Creek, g, California*	4	0	0	34	3%	0
30000 Bratsberg, c, Norway	2	0	0	23	2%	0
13000 California, g, Colorado	1	0	0	1	1%	0
20000 Cape Copper Mining, * South Africa	8	0	0	49	4%	0
65000 Colorado United, s-t Colorado†	5	0	0	25	2%	0
50000 Copiapo, c, Chile (24 shares)*	3	10	0	34	3%	0
70000 English Australian, * c, B. Aust.	2	10	0	13	1%	0
2000 Eng.-Aus., g, Vict., pref. (200000 o.)	1	0	0	—	—	0
25000 Fortuna, t, Spain†	2	0	0	34	3%	0
60000 Frontino & Bolivian, g, New Gran.†	2	0	0	13	1%	0
27000 Henriett, t, Leadville, Colorado	1	0	0	—	—	0
200000 La Plata, s-t, Leadville†	2	0	0	13	1%	0
5000 Linares, t, Spain†	3	0	0	4	3%	0
20000 Marbell Iron Ore, * Spain	10	0	0	34	3%	0
18516 Mason & Barry, t, Portugal	10	0	0	14	1%	0
65000 New Querbrada, c, Venezuela†	5	0	0	43	4%	0
1000 Ditto, Debentures	100	0	0	105	100	0
22500 Port Phillip, g, Clunes† (42 shares)	0	10	0	—	—	0
50000 Richmont Consol., s, Nevada	5	0	0	7	6%	0
24532 Rio Tinto, c, Mortgage Bds., Huelva	100	0	0	102	101	0
32500 Ditto, shares	10	0	0	21	22	0
40000 Santa Barbara, g, Brazil	0	10	0	—	—	0
120000 Scottish-Australian Mining Co., *†	1	0	0	24	2%	0
80000 Ditto, New	0	10	0	13	1%	0
22500 Sierra Buttes, g, California†	2	0	0	13	1%	0
253000 St. John del Rey† (45 Stock and multiple dealt in)	105	115	0	34	3%	0
50000 St. Fortuna, t, Argent. Republic	0	3	0	0	1	0
54000 Richmond Consol., s, Nevada	5	0	0	7	6%	0
120000 Rio Tinto, c, Mortgage Bds., Huelva	100	0	0	102	101	0
32500 Ditto, shares	10	0	0	21	22	0
40000 Santa Barbara, g, Brazil	0	10	0	—	—	0
120000 Scottish-Australian Mining Co., *†	1	0	0	24	2%	0
80000 Ditto, Plumas, Eureka	2	0	0	17	1%	0
253000 St. John del Rey† (45 Stock and multiple dealt in)	105	115	0	34	3%	0
160000 Tambracherry, g, Wynnad	1	0	0	34	3%	0
625000 Tharsis, c, s-t, Spain (587300 issued)	2	0	0	64	6%	0
20000 Tolima, g, s, Colombia (A & Bshares)	5	0	0	64	6%	0
25000 Victoria, g, Australia	1	0	0	—	—	0
100000 Victoria (Nevada, U.S.) Deb. Bds.	1	0	0	—	—	0
5000 Western Andes, c, Colombia	5	0	0	54	5%	0
21000 W. Prussian (5500 pref. sh. 210 pd.)	10	0	0	10	1%	0
54200 Yorke Pen., t, South Aust. Pref.	1	0	0	13	1%	0

* Have made calls since last dividend was paid.

NON-DIVIDEND BRITISH MINES.

Shares	Paid.	Last wk.	Clos. pr.	Total divs.	Per sh.	Last pd.
250000 Aberduna, t, Denbigh	1	10	0	—	1	1%
300000 Alston United, t, Cumberland	1	0	0	—	—	—
12000 Anderton, t, c, t, Devonshire	1	0	0	—	1	1%
12000 Asheton, t, c, t, Carnarvonshire	5	0	0	—	—	—
12000 Bedford Unit., * c, Tavis. (21 lab.)	0	14	0	—	1	1%
12000 Bodidris, t, b, Denbighshire	1	0	0	—	—	—
10000 Brada, t, Isle of Man	1	0	0	—	—	—
30000 British, t, b, Wrexham	1	0	0	—	—	—
20000 British Manganese Company, * t, Flintshire	1	0	0	—	—	—
20000 Bruno Consol., t, Flintshire	1	0	0	—	—	—
20000 Bwch United, t, Cardigan	1	0	0	—	—	—
12000 Collocaze Consol., c, b, Lamerion	0	2	0	—	—	—
50000 Carn Camborne, t, c, Camborne	1	0	0	—	—	—
20000 Carnarvon, * t, Llanrwst	2	0	0	—	—	—
6000 Cathedral, t, c, Gwennap	1	3	0	—	—	—
20000 Central Foxdale, * t, Isle of Man	1	17	0	—	—	—
25000 Coed-y-Fedw & Pant-y-Buarth, t, Llanrwst	1	0	0	—	—	—
30000 Cook's Kitchen, t, Illogan	30	14	0	27	2%	27
10000 Cornwall Great Cons. (4500 issued)	1	0	0	—	—	—
45000 D Eresby Mountain, t, b, Llanrwst	0	10	0	—	—	—
45000 D Eresby Mountain, t, b, Llanrwst	0	10	0	—	—	—
6000 Devon Friendship, * c, ars., Tavistock	1	0	0	—	—	—
6000 Devon Great United* (21 shares)	1	5	0	—	—	—
50000 Drakewals, t, c, Calstock	0	15	0	63	6%	6%
6000 East Blue Hills, t, St. Agnes	0	5	0	—	—	—
20000 East Long Rake, t, Wales	1	0	0	—	—	—
12000 East Tregombe,						